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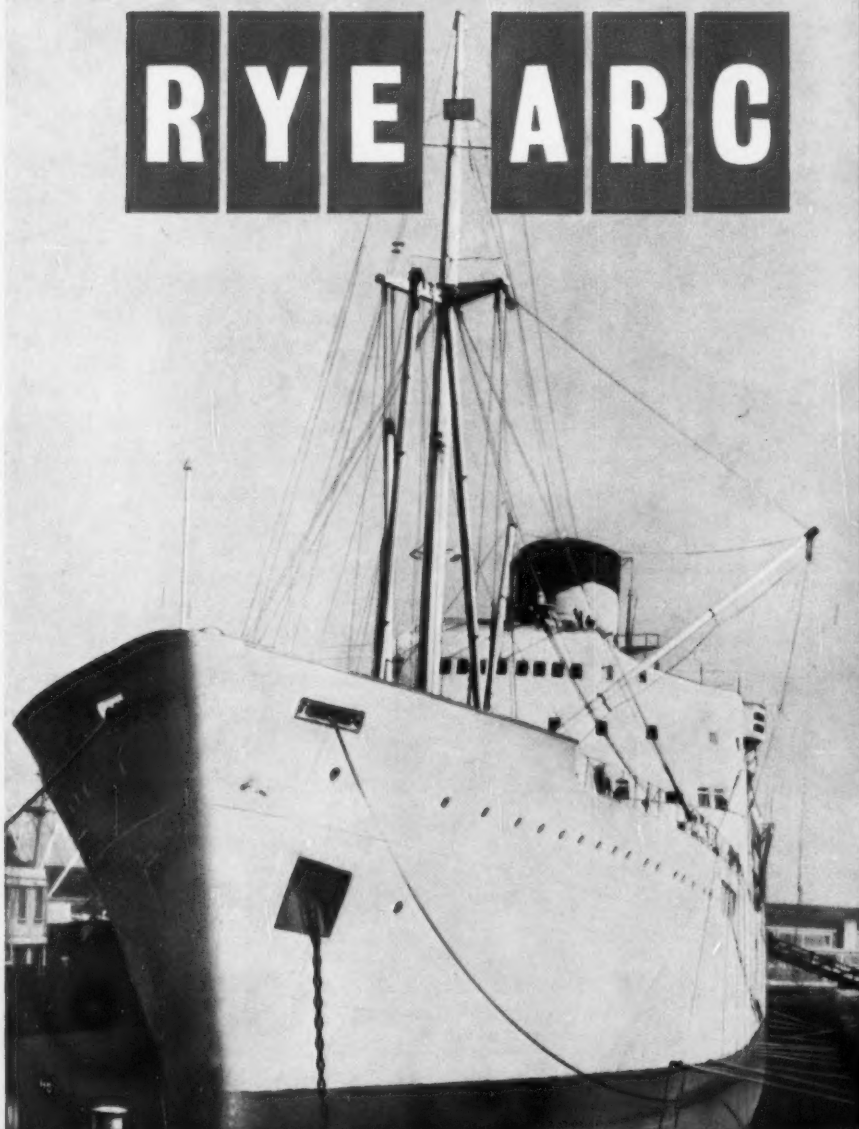


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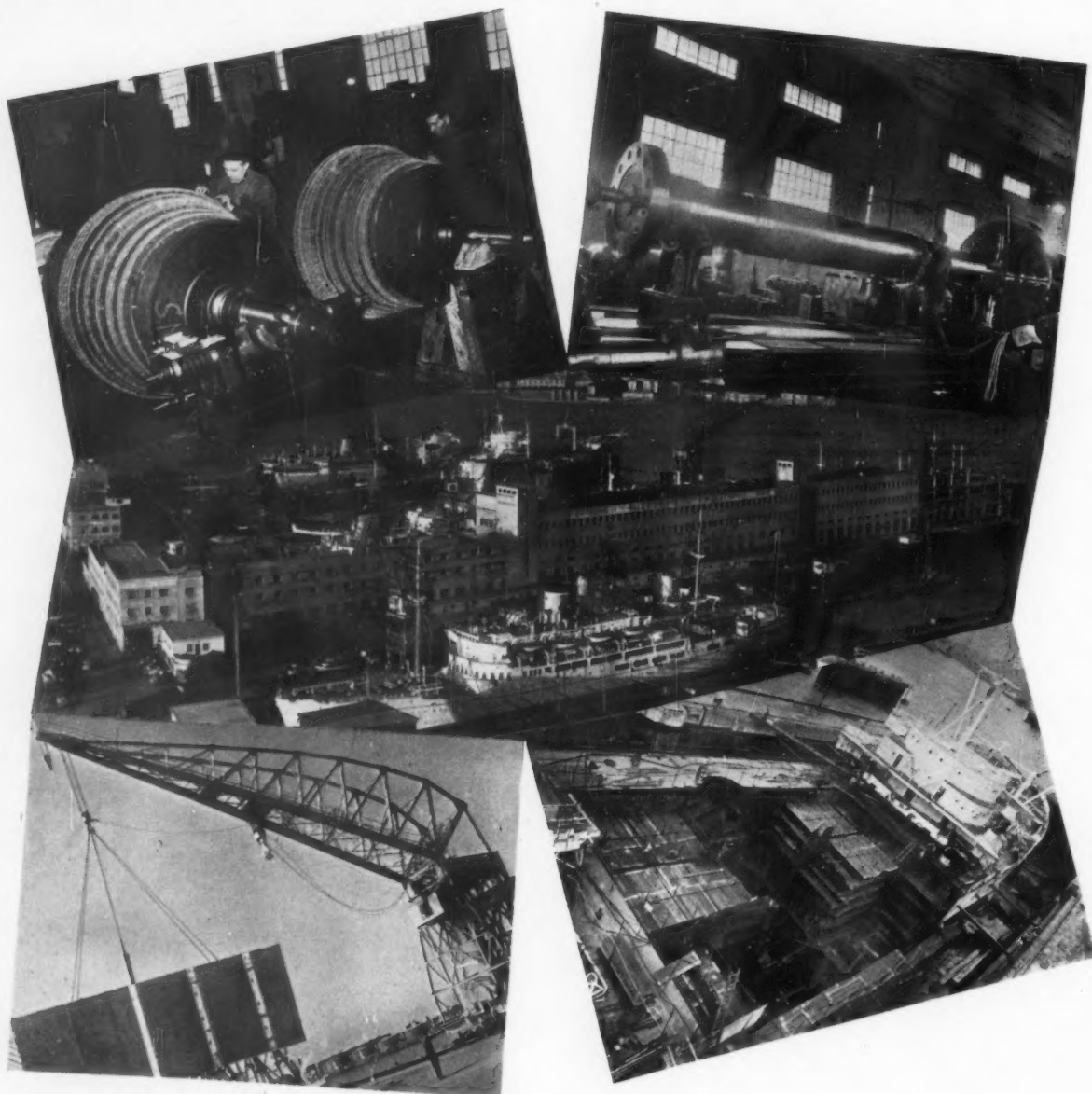
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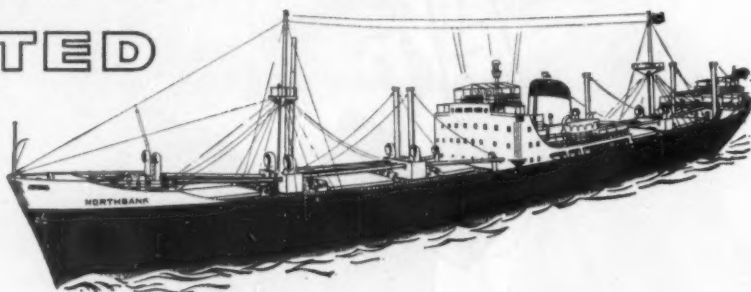
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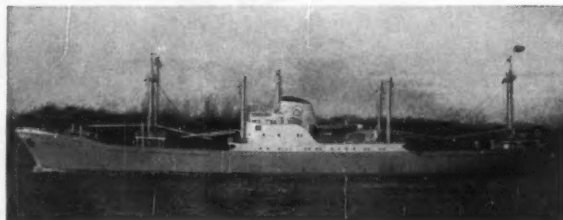
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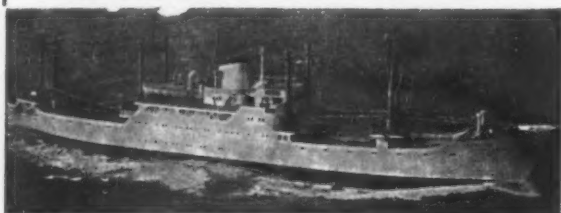


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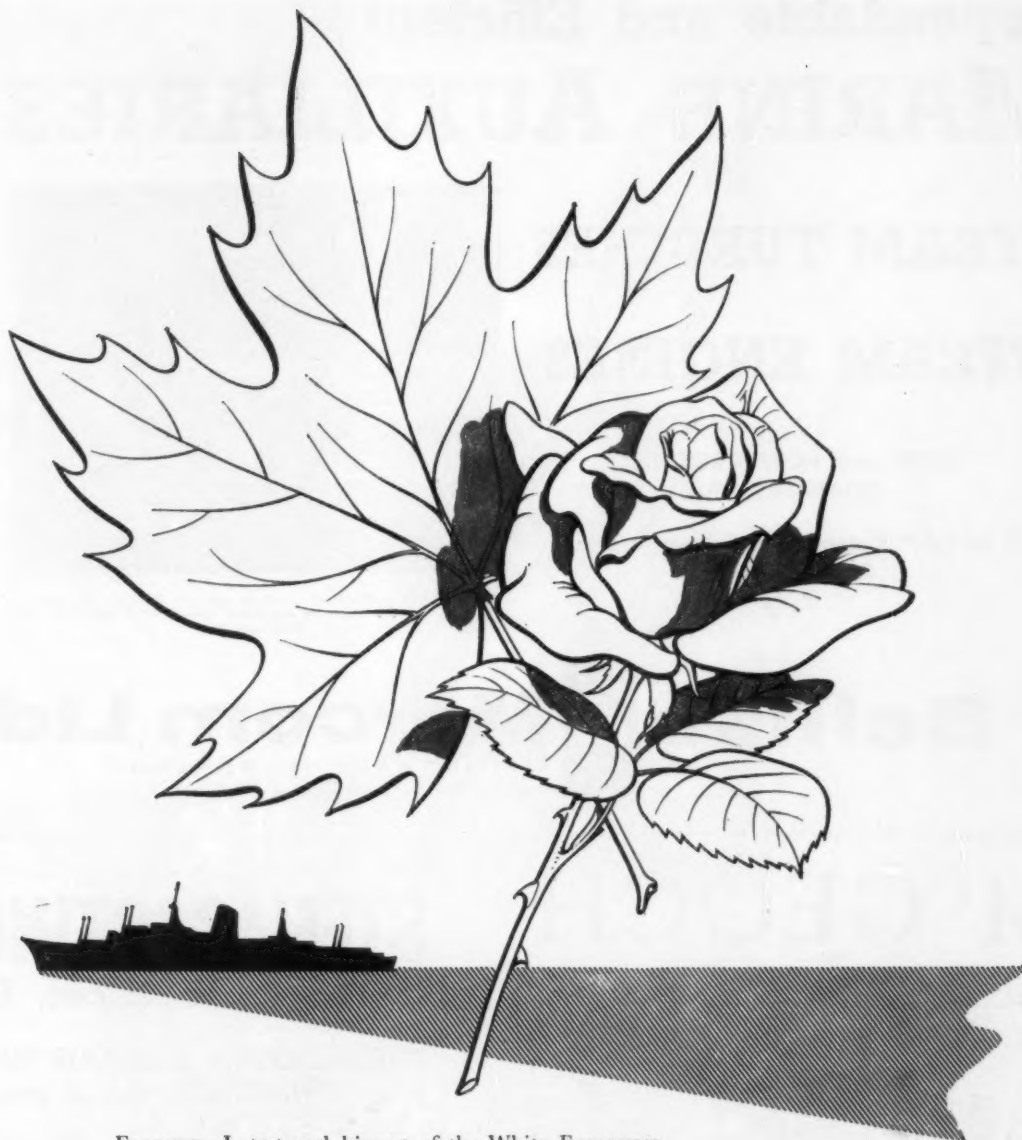
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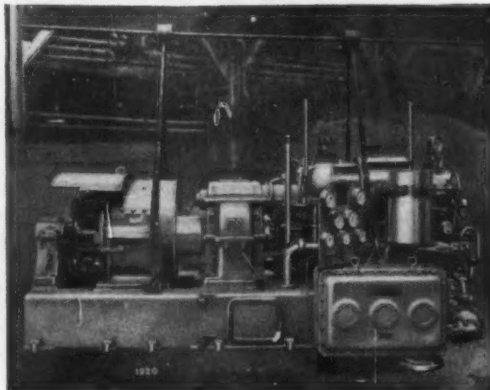
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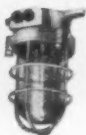
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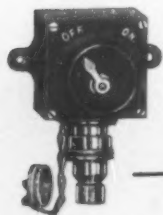
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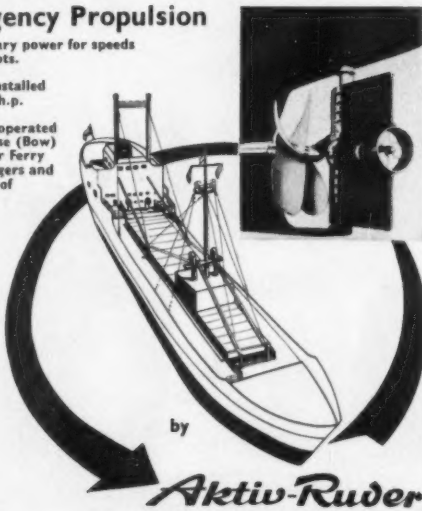
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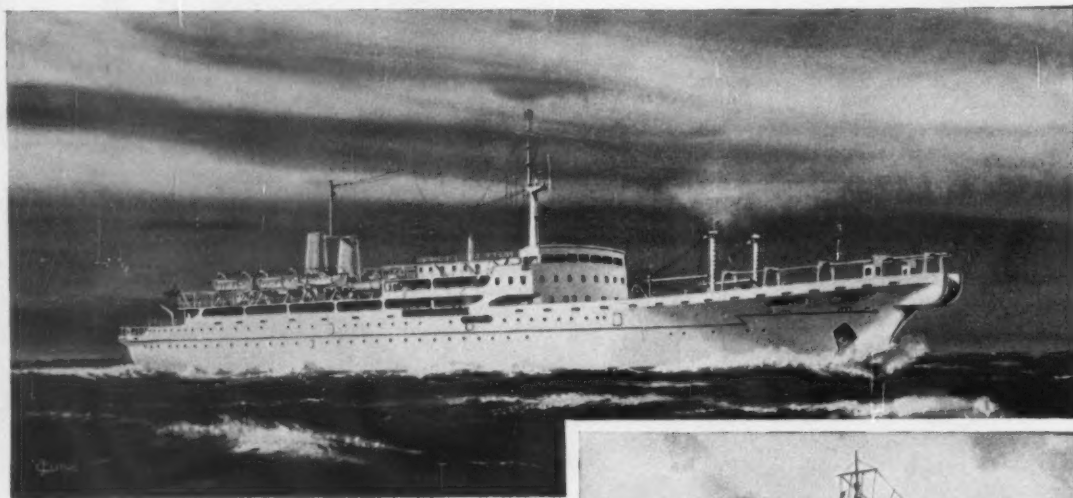
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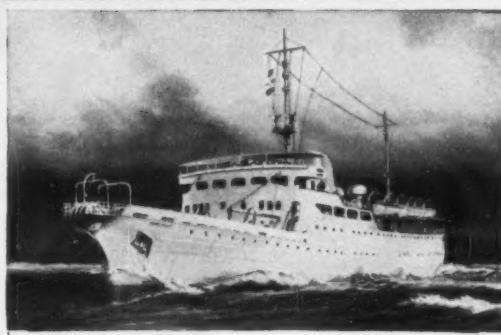
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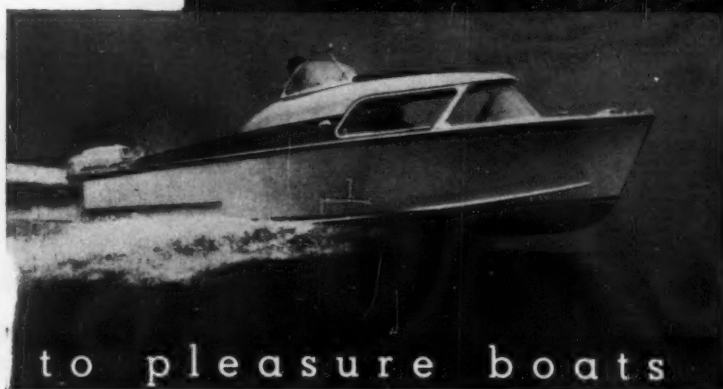
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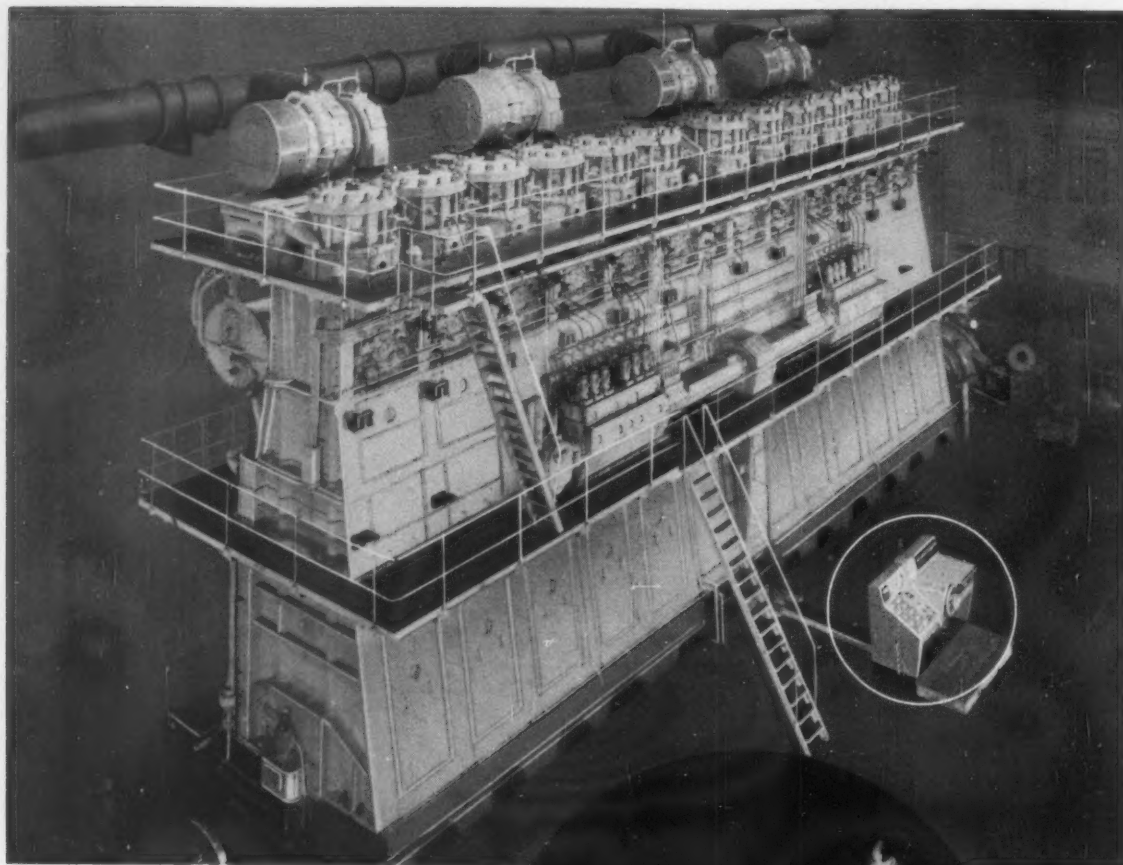


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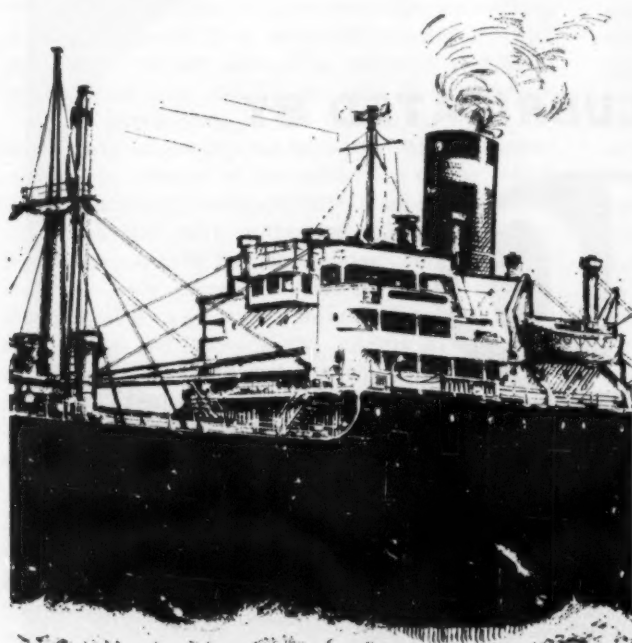
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Vol. 144

26 APRIL 1961

No. 3533

The S.A.C. Report	379	Recent Ship Sales	394
Current Events	379	Fisheries Research Trawler <i>Clione</i>	395
On the "Baltic"	382	AMF-Maxim Aquavap	397
Report on British Shipbuilding	383	Marine Exhibition II	398
Book Reviews	386	Lloyd's Register Shipbuilding Returns	400
The <i>Empress of Canada</i>	387	New Contracts, Launches, Trial Trips	402
Oil Topics	394	Maritime News in Brief	403



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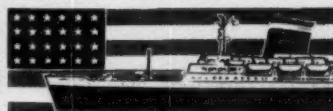
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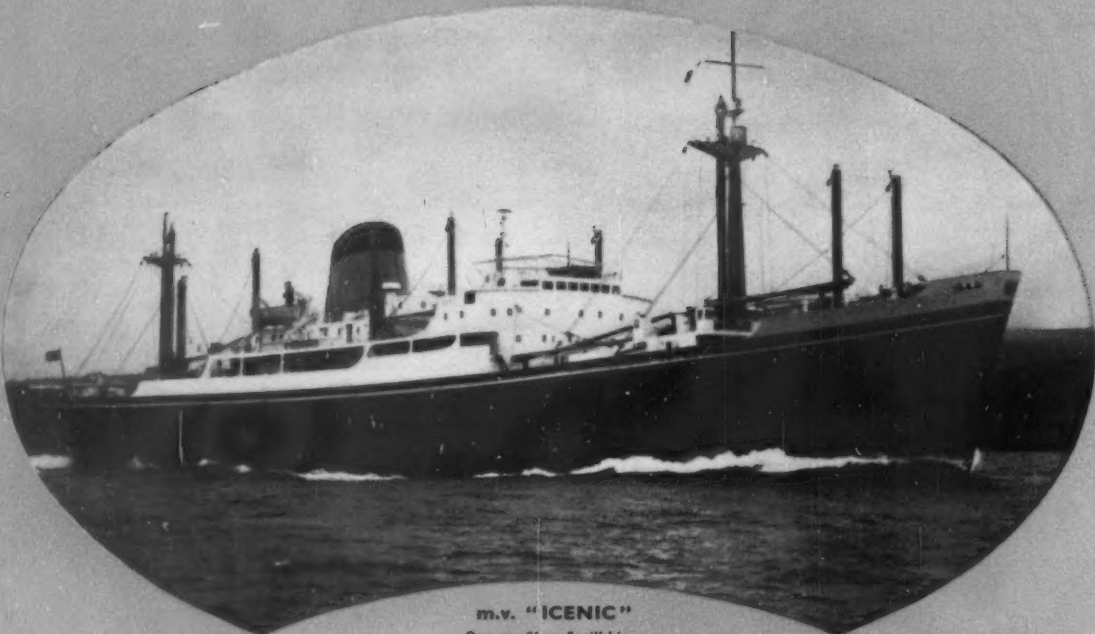
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THE SHIPPING WORLD

THE S.A.C. REPORT

AFTER the D.S.I.R. Report—basically about research and development in the shipbuilding and marine engineering industries, but inevitably having a good deal to say about the industries generally—there now comes the report of the sub-committee of the Shipbuilding Advisory Committee, which is specifically concerned with the prospects of the British shipbuilding industry. The sub-committee, it may be recalled, was set up by the Minister of Transport under the chairmanship of the Ministry's Permanent Secretary, Sir James Dunnett, following the resignation of Sir Graham Cunningham from the chairmanship of the S.A.C. in March of last year.

The S.A.C. Report has already been described as disappointing, and it must be admitted that there is a good deal of truth in this. It says little or nothing that was not obvious at the time that it started its work. The main interest lies in the latter part of the report, and this part has been reproduced virtually *in extenso* later in this issue of THE SHIPPING WORLD. Reading between the lines here, it seems clear that the reaching of common ground in a committee containing representatives of the two sides of the shipbuilding industry was far from easy, and this was only to be expected.

Of the points made by the report, the appeal for better credit availability has been met—to some extent at least—in advance of the publication of the report. It is a matter of considerable importance under present conditions. But more lasting importance attaches to what the report calls "labour relations", but might more profitably have called "the efficient use of labour". This subject is of course the main battlefield on which management and labour in the industry have been in conflict in recent years, and it remains the key to the reorganisation of the industry on lines that would make it fully competitive in the world of today. In this section of the report it is possible to find sentences that

can be quoted with approval, such as "We are agreed that in the present developing crisis in the industry it is not common sense to let things go on as they are", but the reader will look in vain for any strong medicine. All that will be found is the suggestion that the joint yard consultative committees which were set up during the war should be set up again in cases where they have lapsed, together with the paragraph quoted below:

These committees must be at yard level, as yards vary so much in their method of working. Yard committees will, however, inevitably find themselves faced with questions which require national discussion. We recommend therefore that employers and trade unions should constitute themselves as a national joint consultative committee to deal solely with such matters of this nature as are of national interest. We recommend that it should meet as and when required, and that it should be responsible for keeping alive at all levels the spirit of cooperation.

This may sound well enough to the starry-eyed idealist equipped with built-in optimism, but to the average cynic it suggests little more than further occasional discussion leading nowhere. The view has been expressed before in THE SHIPPING WORLD that the settlement of problems on the labour side of shipbuilding is unlikely to be achieved at industry level, owing to the heritage of the past. It requires either tackling on a national (i.e. Government) basis, or a gradual metamorphosis due to changes initiated at yard level. At the moment there are signs that the latter method may lead to something. It is in principle the most painless, and the only trouble is that it is likely to take a long time. However, the call for better cooperation at yard level has been welcomed in the industry by management and labour alike, and it may be that an evolutionary process of improvement is possible. It should not have escaped the eye of the industry that the yards which have been getting orders recently have been those with modern installations and a good record of labour relations.

Current Events

United States Shipping Legislation

THE International Chamber of Shipping, at its annual meeting last week, gave careful consideration to the legislative proposals under discussion in the United States Congress for the legalisation of the dual-rate system, the so-called Bonner Bill. A statement agreed by the 18 countries present said that the International Chamber appreciated Congress's recognition of the necessity of the dual-rate system and recognised Congress's responsibilities

in reconciling this acceptance with its duty to ensure compliance with the anti-trust provisions of existing law. At the same time, however, it felt bound to record its serious concern about the nature of the measures now under consideration—measures which, if enacted, would so fetter the normal commercial operation of liner services as to make them unworkable and also strike at the very basis of conference/dual-rate systems. "The vast and intricate network of international liner services on

which world trade has become so dependent was built up on the simple commercial basis of providing a service best suited to the needs of the shipper. These services have, over a long period of time, provided for the shippers' essential requirements of regularity of service and stability of freight rates at a reasonable cost within most cases little or no governmental control or direction. The efficiency of these services is dependent on the international scope of their operations—operations which bring them within the jurisdiction of many nations. One individual line, for example, may serve the trade of many countries in the course of a single voyage. At the least, every line in international trade comes within the jurisdiction of two sovereign States. Against this background of a long-established commercial pattern of international operation, the International Chamber of Shipping views with the greatest concern any suggestion that one country should seek to subject the commercial activities of liner companies which serve its trade to national control. Direct regulation and control would gravely hamper the smooth commercial operation of liner services. Equally serious, is the fact that national control applied to international shipping can only lead to a clash of national jurisdictions and to the disruption of services which have been of great benefit to world trade and commerce."

The Shipbuilding Gap

ORDERS for 61 ships of 131,000 grt were placed with British shipbuilders in the first quarter of the year, compared with 53 ships of 196,000 grt in the same quarter of last year; but existing orders for three ships of 25,000 grt were cancelled. According to the Shipbuilding Conference, the industry's order book at 31 March 1961 stood at 430 vessels of 3,080,000 grt, nearly one million tons less than a year ago, and a marked change from the peak figure of 896 ships and 6,741,000 grt attained in 1957. The Conference points out that March was a somewhat exceptional month for British shipyards. The passenger liner *Empress of Canada* and several large tankers were among the 40 ships of 245,000 grt delivered during the month, although the completions for the quarter as a whole were 67 ships of 381,000 grt; and several large tankers, including one with a carrying capacity of some 67,000 tons, were among the 29 ships of 194,000 tons whose keels were laid down during the month, although the total laid down in the quarter was 58 ships of 296,000 tons. During the quarter 65 ships of 340,000 tons were launched. The limited number of new orders, however, was a reminder of the gap between demand and output which has existed since the autumn of 1957, and which, in that period of 3½ years, has been responsible for a reduction of nearly four million tons gross in the order book. Of the total contracts now in hand ships aggregating just over 1.5 mn grt have still to be laid down, including some tonnage which is not to be built until there are signs of a general improvement in the outlook for shipping."

Sugar and Revolutions

WHEN the dust of the abortive attempt to overthrow the Castro regime has settled a new move may be made towards further mechanisation at Cuba's sugar ports. At the time of the revolution several important bulk loading installations were in hand, including new projects at Matanzas and Guayabal. Some of this work was being carried on under British auspices. The extent of the damage inflicted on American industrial interests in Cuba after Castro came into power has tended to overshadow the losses suffered by British enterprise and capital. In fact many projects, including the establishment of a ship-

yard, were stifled or requisitioned and funds confiscated right and left. Bulk loading has in the past been bitterly opposed by Cuban port labour. The attitude is not surprising in view of the preponderant importance which this commodity occupies in port activity, as in the economy of the country as a whole. Before the recent political upheaval port labour had been coaxed or coerced into a new frame of mind. We understand that something in the nature of a plebiscite was held and the principle of bulk loading accepted by labour. Bulk sugar loading was pioneered by the Americans just before and immediately after the last war, particularly in Hawaii. It has since become commonplace and British engineers have participated in the design and construction of installations in the West Indies (the latest being in Barbados and British Guiana), Australia and elsewhere. If Cuban interest in mechanisation is about to be revived, as it must do if the country's staple commodity is to remain competitive in a market plagued by over-production, it is not to the United States that the Cubans will turn for help. If British firms do not take the opportunities offered—and in view of experience only two years past a cautious attitude is, to say the least, understandable—no doubt the necessary engineering skill will be found on the other side of the Iron Curtain.

Longer Season in the Gulf of Bothnia

IN THE Baltic Sea generally, and the Gulf of Bothnia particularly, ice forms every winter. Usually ice starts to form in the northernmost harbours at the beginning of November. The ports of Lulea and Pitea are usually closed until the middle of May; this year, however, navigation in the Pitea district started as early as March 2, when the German motor vessel *Ness* called at the Skutumpah pulp mill, assisted by the icebreaker *Thule*. The exceptionally mild winter has naturally been of great importance, but it is nevertheless quite clear that the improved icebreaker service, the two powerful government icebreakers *Oden* and *Thule*, in close cooperation with the icebreaking tugs of the various private concerns, and the improved system of lights, have been instrumental in the opening up of the Gulf of Bothnia during the winter season. The dangerous part of the gulf, which is called Ostra Kvarnen, is now served by a permanent lighthouse instead of the former light- and sound-buoys, which could not be laid out before the end of the ice drift. The approach to Pitea is also made easier by a new permanent lighthouse, whereas Rönnskär has a radio beacon. Another permanent light at the Renörgrund, as well as radar, short-wave radio and a new pilot vessel on Rönnskär, help to eliminate the risks. This summer a further important step towards improved navigation will be taken when the Decca Navigator chain is extended to cover the whole Gulf of Bothnia.

The American Hull Losses

THE chairman of the American Hull Insurance Syndicate, Mr Clifford G. Cornwall, reports that the claims experience of the syndicate for the fiscal year 1960 included 23 major ship casualties in which the syndicate's share averaged almost \$250,000 each. In addition to those major claims were the thousands of smaller losses arising under marine policies which occur every day throughout the year. Mr Cornwall explained that this was significantly higher than the average for the 22 major casualties which were among the claims appearing in the 1959 fiscal year and, furthermore, the total losses of the *Sinclair Petrolere* and *Pine Ridge*, which occurred in December 1960, made a poor start for the 1961 fiscal year. The very high insured value of the *Sinclair Petrolere*, which was in excess of

\$8 mn, made her loss one of the largest insured losses to be met by commercial underwriters. Mr Cornwall went on to say that there was a strong trend towards higher ship values, reflecting current high replacement costs and repair costs throughout the world. While values on older tonnage are dropping, underwriters are faced with the necessity of insuring very large values, not only on newer passenger vessels and large tankers, but also on large bulk carriers and special purpose ships. This problem of high insured values of individual vessels, of course, is not confined to the American market. Indeed, it is one of the marvels of a marine insurance market like London that in a matter of days a vessel with a value of the order of £2 to £3 million can be insured promptly and with little unnecessary fuss, each underwriter accepting his appropriate line as part of his balanced underwriting account, comprising many such vessels and all types of risks—protected, if he so desires, by adequate reinsurance arrangements. In the London marine insurance market, both Lloyds and company underwriters are associated together in the insurance of marine risks of this kind, assisted by the competent and well developed organisation of numerous firms of insurance brokers. Mr Cornwall's remarks, however, do serve to emphasise the flexibility and also the enormous maximum line capacity of any great marine insurance market.

Rejuvenation of the Finnish Fleet

A REMARKABLE rejuvenation of the Finnish merchant fleet has taken place during the last five years. In this period the average age of the vessels has been lowered from 26 to 18.3 years. The total tonnage, on the other hand, has not changed much, being 756,000 grt in 1955 and 800,716 grt at the beginning of this year. The Finnish Shipowners' Association point out that "the rejuvenation" is a result not only of the fact that many new vessels have been acquired, but also through the continuous sale and scrapping of older vessels. One-third of the Finnish merchant fleet (296,000 grt) has been sold or scrapped during the last five years. Although Finnish tonnage is being modernised at a much faster pace than before, 41.2 per cent of the vessels are still more than 20 years old, while the corresponding percentages in Sweden, Norway and Denmark are 15, 8 and 11.5 per cent respectively. Only 37.6 per cent of the Finnish fleet is younger

than 10 years, while 62.6 per cent of the Swedish, 72.6 of the Norwegian and 72 per cent of the Danish fleets are of younger date. It is expected that 130,000 grt of modern vessels will be added during the next two years.

Alarm Signal Generator

WHEN the new Merchant Shipping (Radio) Rules which will give effect to the requirements of the International Convention for the Safety of Life at Sea, 1960, come into force, ships which carry radiotelephone equipment in accordance with the requirements of those Rules will be required to carry an alarm signal generating device as part of the radiotelephone installation. However, as its use by any ship in distress would materially increase that ship's chances of being heard and so of being helped, the Ministry of Transport has recommended that every seagoing vessel which is provided with a radiotelephone transmitter which may be used for distress purposes on 2,182 kc/s should be fitted with the device as quickly as possible. It suggests that for cargo ships of not less than 500 tons but of less than 1,600 tons which are radiotelephone ships for the purposes of the Merchant Shipping (Radio) Rules, 1952, this should preferably be by not later than 1 January 1962. Stocks of the equipment are becoming available now from the marine radio companies. The radiotelephone alarm signal, which consists of two tones transmitted alternately over a period of at least 30 seconds but not exceeding one minute, is intended primarily for use by ships in distress to give preliminary warning to other ships carrying radiotelephone equipment capable of receiving on the international radiotelephone distress frequency. United Kingdom coast radio stations have been transmitting the signal as a prelude to distress broadcasts on radio telephony for several years, and so most radiotelephone operators are now aware of the alerting value of its distinctive warbling sound, which can readily be recognised by ear through heavy interference.

The Bowater newsprint carrier "Gladys Bowater" is seen leaving the Iroquois Lock of the St Lawrence Seaway, which opened for navigation on April 15. The Bowater fleet has recently been fitted with VHF radio telephone equipment by the Cossor Communications Co Ltd in order to comply with the St Lawrence Seaway requirements



ON THE "BALTIC"

IMPROVING CONDITIONS

By BALTRADER

THE MARKETS have had a much more lively look about them in the past few weeks, thanks mainly to the strength of freights out to the Far East, and it is an intriguing fact that in many respects no class of ship has done better than that veteran of 18 odd years, the *Liberty*. It is, after all, the American scrap trades which have been mainly responsible for the current market strength and it is a well-known fact that the charterers concerned particularly favour the *Liberty*. This is because any one of this class of ship is to all intents and purposes an identical twin of any other; and consequently, with shippers and stevedores knowing exactly what to expect, the problems of loading and stowing can be anticipated without difficulty. Mention has been made on this page of the remarkable stability of the U.S. Gulf/U.S.N.H. to Japan scrap rate last year, when *Liberty*-type ships were fixed week after week between May and November at \$103,500; a good example of charterers with a big programme setting a rate which attracted owners without too much difficulty. Now, of course, a prompt *Liberty* can earn, say, \$34,000 more on the same voyage; and if, for example, she ballasts out from Europe and takes perhaps 90 days including the discharging time in Japan she will earn around \$370 or £134 per day more than was possible for the same vessel last summer. This is a useful additional profit on a single voyage for a ship valued today at £80/100,000, even if one does take a jaundiced view of return prospects from the Far East.

While it is doubtful if, for a *Liberty*, any business in the world compares with the scrap just referred to, other charterers in trades where *Liberties* are acceptable have been forced to compete; and rates, for example from Cuba to the Black Sea, were rising sharply early last week even before the political situation in Cuba started to hit the headlines. Russian charterers have been paying 16s to 17s for *Liberty* types on timecharters which will occupy the vessels over the next five or six months, and for the moment at least some owners of these ships are getting better value for money than those with modern vessels valued at a million pounds or more.

Other Increases

Of course there have been some welcome increases in rates in other eastward trades where the big ships concentrate their attention, and, for example, coal from Hampton Roads to Japan was last week worth around \$10.00 (scrap \$137,500) whereas at the beginning of the year coal was paying \$8.40 (scrap \$110,000). Grain from the U.S. Gulf to Japan, another trade where large modern vessels are attracted, was last week worth between \$10.75 and \$11.75 depending upon position, whereas at the start of the year the value was about \$9.40. Nevertheless the scrap rates, which are based on a deadweight carrying capacity of 9,500 tons, show a much greater *pro rata* improvement than the Gulf grain rate, for example, and this is due in part at least to the fact that as soon as the Gulf grain charterers start to pay up they find as much interest shown by big ships ballasting back from the East as from vessels either on the spot or in European waters.

Reference has already been made to the troubled situation in Cuba, and last week the attitude of owners naturally depended to a large extent on their personal circumstances. Many ships have been fixed to and from Cuba in recent months, mainly for account of Russian and Chinese charterers, and not surprisingly those owners with ships either approaching or already in the country's ports were

anxious to know to what extent they were likely to become involved. For a long time now there has been a small extra war risk insurance premium charged by underwriters for ships trading with Cuba, and it was obvious that this was going to be substantially increased if the disturbances continued unchecked. In the meantime, while uncertainty continued, owners naturally preferred to watch the situation carefully and not become involved in further negotiations for cargoes to or from Cuba.

The Freight Markets

There was a further sharp increase in the rate for coal from Hampton Roads to Japan when the *Lord Gladstone*, 15,000 tons, was fixed at \$10.85 for May loading. Although the high rates demanded for voyages to the Far East are partly due to the weakness of the market on that side of the world, there are signs that the tonnage in the Pacific area is becoming less vulnerable because the Atlantic rates are high enough to draw ships back from the Pacific in ballast. An 'Amstel...' vessel has secured 52s 6d from British Columbia to China for two voyages with grain, May/June; this shows a rise of 2s 6d. A better rate has also been paid for grain from British Columbia to India at 65s with 3¼ per cent commission.

Fixtures include the following: *Mount Ithome*, 9,000 tons scrap, U.S. North of Hatteras to Japan, 470,000 cu ft bale, \$137,500, May 8/23; *Island Engineer*, 13,850 tons scrap, 692,086 cu ft bale, \$200,409, May 20/June 10; vessel 28,500 tons, Gulf/near Continent, heavy grain \$3.50, May 30; *Hannington Court*, Baie Comeau to picked port U.K., heavy grain, 47s 6d, May; *Ercta*, 10,000 tons, 56 ft grain, up River Plate to Tokyo-Hakata range, 110s, Clause 6 limited to 2,500 tons bagged cargo, May 10/25; two *Baron* vessels, 8,500 tons, bulk sugar, Durban to London, Liverpool or Greenock, 62s 6d, June 1/30 and June 12/July 10; vessel, 9,500 tons bulk sugar, Mackay, Townsville or Mourilyan to U.K. 92s 6d, Antwerp, Rotterdam or Amsterdam 90s, May 25/June 26; *Silverbeck*, 13,850 dwt, 644,000 ft bale, 13 knots on 14 tons fuel oil plus 1 ton diesel, 29s per month trip, delivery Swansea, redelivery Japan via U.S. Gulf or Central America, May 5/20; *Vito*, 9,050 tons deadweight, 529,000 cu ft bale, 14.3 knots on 18 tons fuel oil, plus 1 ton diesel, 24s 3d, two West African rounds, £1,250 bonus for ballasting from west coast U.K. to deliver in London, redelivery U.K./Continent, May 18/27; vessel, 9,712 dwt, 476,000 ft bale, 10 knots on 22/24 tons fuel oil, 17s per month, 4/7 months, delivery passing Smalls Light, redelivery U.K./Continent, Baltic or Black Sea, April 25/May 6.

A NEW TYPE of loud-speaking communication system has been developed for the nuclear-powered submarine *Dreadnought* by the Industrial Supplies Division of Standard Telephones & Cables Ltd. In the *Dreadnought* installation there are 64 loud-speaking stations, each of which consists basically of a microphone and preamplifier unit, a loudspeaker and a loudspeaker amplifier unit. Stations can be directly coupled in groups of stations by the operation of switches, or connected to the ship's automatic exchange. These switches allow the setting up of a large number of different sized groups which may vary from 2 stations to 60 stations. This requirement has necessitated the development of a system which will automatically maintain the signal level irrespective of the number of stations connected into circuit.

Report on British Shipbuilding

ABSTRACTS OF SHIPBUILDING ADVISORY COMMITTEE'S SUB-COMMITTEE REPORT

THE TONNAGE of merchant ships of 100 grt and over on order in U.K. yards has fallen from 5.4 mn grt at the end of 1958 to 3.2 mn grt at the end of 1960, of which some half is already under construction. The orders are unevenly spread. A number of yards which build small and medium-sized ships are already feeling the pinch and will soon have no work at all unless new orders can be secured, and even the yards which build big ships are beginning to be affected.

We understand that employment on naval new construction is not likely to change significantly in the next few years, unless Government policy changes. Total employment of operatives on shipbuilding could, however, fall considerably by the end of this year unless a substantial volume of new orders is received, and we see little grounds for hope that these will be forthcoming. The impact on particular areas is difficult to forecast as it depends to some extent on where new orders will be placed. It appears likely, however, that the fall in shipbuilding employment may be most severe in Scotland and Northern Ireland. The yards building smaller ships are scattered throughout the country. They provide important employment in their districts and their difficulties will undoubtedly cause local hardship.

Any longer-term forecast can only be extremely tentative. In the long run, we expect that requirements for United Kingdom shipowners may amount on the average to roughly 1.0 mn grt a year. If the shipbuilding industry is fully competitive it should obtain most of this work. To this must be added its share of foreign orders, the volume of which it is difficult to estimate.

But prospects up to the end of 1965 are less favourable, and in the following paragraphs we indicate what they may be. By far the major element in demand will be ships for U.K. registry. The most significant fact about the size of the U.K. non-tanker fleet is its stability over recent years. We see little reason to doubt that this will hold good

therefore estimated at some 4 mn grt. The remaining work will be for Commonwealth and foreign registry. Existing orders for these registries amount to some $\frac{1}{2}$ mn grt, of which some are indefinite. Perhaps some $\frac{3}{4}$ mn grt in all may be built by the end of 1965.

To sum up, we estimate that some $4\frac{3}{4}$ mn grt may be built in United Kingdom yards in the years 1961 to 1965 inclusive. Forecasts of delivery dates indicate that some $1\frac{1}{4}$ mn grt may be completed in 1961. We have made no allowance in this estimate for the effects of any possible emergencies on shipbuilding demand. Apart from any such special developments, there are many ways in which these estimates of demand for new tonnage could be falsified. This is particularly so in respect of tankers. Although it is not likely that the surplus of tanker tonnage will have disappeared by 1965, owners looking beyond that time may well feel it prudent to order tonnage in anticipation of a changing market. But to what extent this would apply to United Kingdom owners, especially independents, must be uncertain and in any case it would not make much difference to actual deliveries in 1965.

With such prospects the industry is clearly faced with a testing period which will be a challenge to management and men if the industry is to weather the storm and be prepared to take full advantage of the possibilities when demand recovers.

Competitive Position

The most important factor will be the industry's competitive ability and we proceed to analyse how this stands at present and how improvements might be effected. In doing so we naturally dwell on those aspects in which we believe improvements in the industry are possible. We do not wish, however, to convey the impression that it is generally inefficient and outmoded in its ways. Some yards are as efficient as any in the world, but there is room for progress, and even marginal improvements would be helpful in the fierce competition which now prevails. Competitors in other countries, faced with the same trials, will also be straining every nerve to maintain or improve their position.

We have no doubts about the ability of United Kingdom shipbuilders to build a ship of any type to meet shipowners' requirements, or to suggest new developments to them. The overall quality and design of British-built ships of all types is as good as the best in the world, and in some types, in particular passenger ships, the United Kingdom leads the world.

We do not dwell on the industry's research and development work as this has been covered in the report of the Department of Scientific & Industrial Research on the research and development requirements of the shipbuilding and marine engineering industries. We welcome the assurance that the industry will cooperate with the Department of Scientific & Industrial Research and the Ministry of Transport in implementing the recommendations of the report.

Prices

The latest evidence available suggests that at least some U.K. shipbuilders are now offering prices as low as their foreign competitors, though we are informed that this is sometimes achieved only by eliminating profits and cutting overhead charges even in those firms which are known to be leading the industry in the introduction of cost-cutting

MEMBERSHIP OF SUB-COMMITTEE

The membership of the sub-committee that produced the report was as given below:

Sir James Dunnett, chairman; Col T. Eustace Smith, Mr A. H. White, Mr R. B. Shephard, Shipbuilding Conference; Mr R. W. Johnson, Mr G. Harold R. Towers, Mr N. A. Sloan, Shipbuilding Employers' Federation; Mr E. J. Hill, Mr G. H. Doughty, Mr H. G. Barratt, Mr A. Williams, Confederation of Shipbuilding and Engineering Unions; with officials from the Ministry of Transport and the Ministry of Labour.

over the next few years. On the basis of the replacements required to keep the U.K. fleet at its present level, we estimate that requirements for new non-tanker tonnage in the years 1961 to 1965 inclusive may be some 3 mn grt, of which some $2\frac{1}{2}$ mn grt might be built in U.K. yards. The demand for tankers is subject to a number of particularly uncertain factors, and the problem is dominated by the substantial surplus of tonnage which now overhangs the market and which seems likely to persist to a greater or smaller degree throughout the period. On the basis of the tonnage already on order, with an allowance for additional orders, we estimate that U.K. shipyards may build some $1\frac{1}{2}$ mn grt of tankers for U.K. registry in the years 1961 to 1965 inclusive. The total tonnage to be built for United Kingdom registry in United Kingdom yards is

techniques. But there is fierce competition for the orders going and there is evidence that some firms in other countries have adopted similar tactics. We think, however, that the most efficient and up-to-date firms will continue to be able to offer competitive prices for the type of ships in which they specialise. Shipowners naturally like to know exactly what their commitments are and demand fixed prices. They are getting these from all countries in the present buyers' market, and indeed shipbuilders prefer to offer them. But this presents greater difficulties to U.K. shipbuilders than to their competitors in other countries, where the effect of changes in wage rates is more predictable because of the basis on which they are negotiated.

Cost of Materials and Equipment

The price of steel as the principal raw material used in shipbuilding significantly affects the cost not only of the hull but also of the propelling machinery and innumerable items of equipment and outfit. For shipbuilding plates and sections there is now little difference between U.K. prices and those ruling on the Continent. It must be emphasised that a high proportion of the cost of a ship comprises materials and equipment bought in by the shipbuilder, and over these costs he has no direct control. Shipbuilders prefer to buy U.K. materials and equipment, but items such as castings, forgings, deck and auxiliary machinery, derricks and many others, can frequently be bought more cheaply from Continental manufacturers. Thus shipbuilders are sometimes forced to buy in the cheapest market consistent with quality and performance, but they are not free to do so when shipowners specify the make and type of equipment required.

It is important that the makers of bought-in materials and equipment should offer fixed and competitive prices. They would lose much custom if shipbuilders' orders declined substantially. We think it essential to bring this home to the supplying industries concerned and welcome the efforts which shipbuilders are continuously making, with some success, in this direction.

Labour Costs

Information is not available for a full comparison of labour costs in different countries. This would require figures for actual labour costs for similar types of ships built here and abroad. The only information available is for hourly earnings and "fringe benefits" such as social insurance paid by the employer which is only one element of total labour costs. A full comparison should take account not only of average earnings etc., but also of the number of man-hours of various degrees of skill required to build ships of the same type. Available information indicates that earnings and fringe benefits taken together are about the same per hour in Western Germany as in the U.K. In Japan they are considerably lower than the U.K. figure. The information available to us about the figures for Sweden has not enabled us to reach any detailed or agreed conclusion, although it would appear on the surface that they are somewhat higher.

It is of the greatest importance to a shipowner for his ship to be completed and delivered on the date he requires. Shipbuilders in this and other countries can now generally meet shipowners' requirements in this respect (though only modernised yards can effect really quick deliveries) provided their production programmes are not upset by stoppages of work in the yards. Such stoppages have, unfortunately, occurred more frequently in this country than in some others. The industry's customers have had to bear the consequences of this, as delays due to industrial disputes are specifically excluded from penalty under a building contract if delivery is not effected on the date

promised. The effect of such delays has undoubtedly been detrimental to the U.K. industry.

Credits

The availability of credit and the terms on which it is offered very often determine nowadays whether a shipowner will place an order and with whom he places it. In the buyers' market which prevails, and may be expected to prevail for some years, the shipbuilder himself has increasingly to arrange for credit if he is to get the orders he needs.

The evidence we have indicates clearly that credit is available for shipbuilding more freely and on better terms in other countries than it is here, and that U.K. shipbuilders are losing orders because of credit difficulties alone. There is an urgent need for credit to be more freely available in this country for shipowners and for its price to be on a par with that offered abroad. In the view of the industry, credit is as important for orders from U.K. owners as from foreign owners. We have noted the recent decision of the Bank of England to refinance a proportion of the medium-term export credits provided by the banks, but it is too early to assess the extent to which this will help.

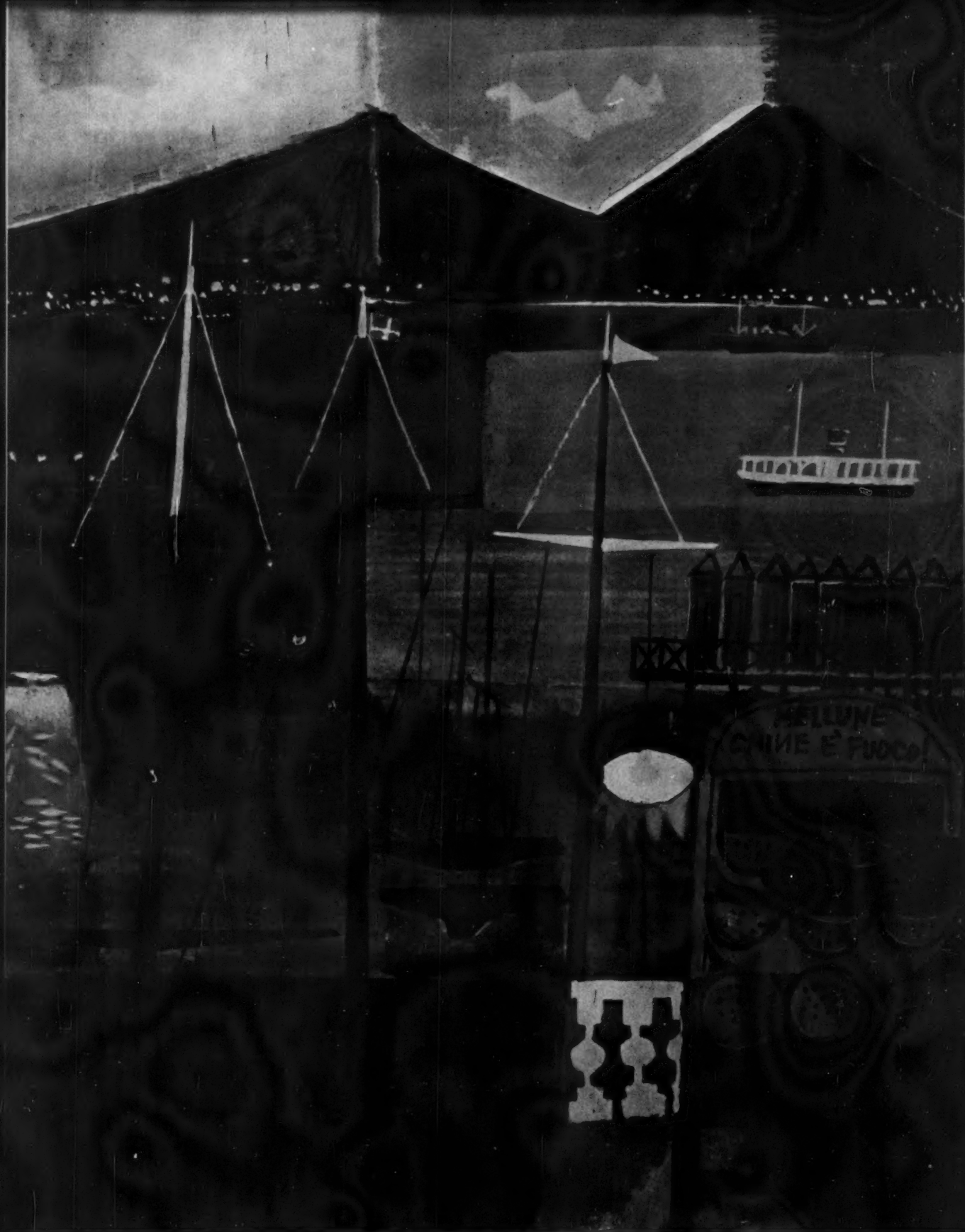
We welcome the improved and cheaper facilities for guaranteeing export credits which the Export Credits Guarantee Department now offers for shipbuilding. We have noted, too, the other measures applying to industry generally whereby ECGD may in certain circumstances insure credit on longer terms than the normal maximum of five years, or for the first five years of a longer period. These improvements may enable U.K. shipbuilders to secure more foreign orders, although we stress the vital importance of their being able to quote competitively at the outset of the negotiations; it is not enough for them to be able to do so only when they know what terms are on offer abroad.

We realise that the problem of credit for shipbuilding cannot be treated in isolation and that many other factors such as the balance of payments have to be taken into account. Nevertheless, both sides of the industry are agreed that the requirements of the shipbuilding industry ought to receive specially sympathetic consideration in present circumstances. They believe that, when even the most efficient yards in the country are failing to get orders solely because their competitors can offer more favourable credit terms, there is a strong case for enabling them to meet those terms. We are aware that the Shipbuilding Conference has been pressing for a long time the need for better credit facilities and that the Ministry of Transport have been investigating the subject. We recommend that the Government should give the industry's needs the most sympathetic and urgent consideration.

Modernisation and Re-equipment

The U.K. shipbuilding industry has invested large sums in modernising and re-equipping its yards. Between 1951 and 1956 gross investment in the shipbuilding, shiprepairing and marine engineering industries (excluding the Royal Dockyards) averaged £8 million per annum, representing between 2 and 3 per cent of turnover or $4\frac{1}{2}$ per cent of net output. In 1957 gross investment was estimated at £14 mn and in 1958 at £18½ mn representing 5 per cent of turnover or $9\frac{1}{2}$ per cent of net output in that year. Investment is expected to continue at or above this level until current modernisation plans are completed. The lower rate of investment up to 1956 is largely explained by the fact that, up to 1955, investment was generally under Government control both financially and through steel allocation, and the requirements of shipbuilding did not get so high a priority as those of other industries.

Shipbuilding facilities in the traditional shipbuilding



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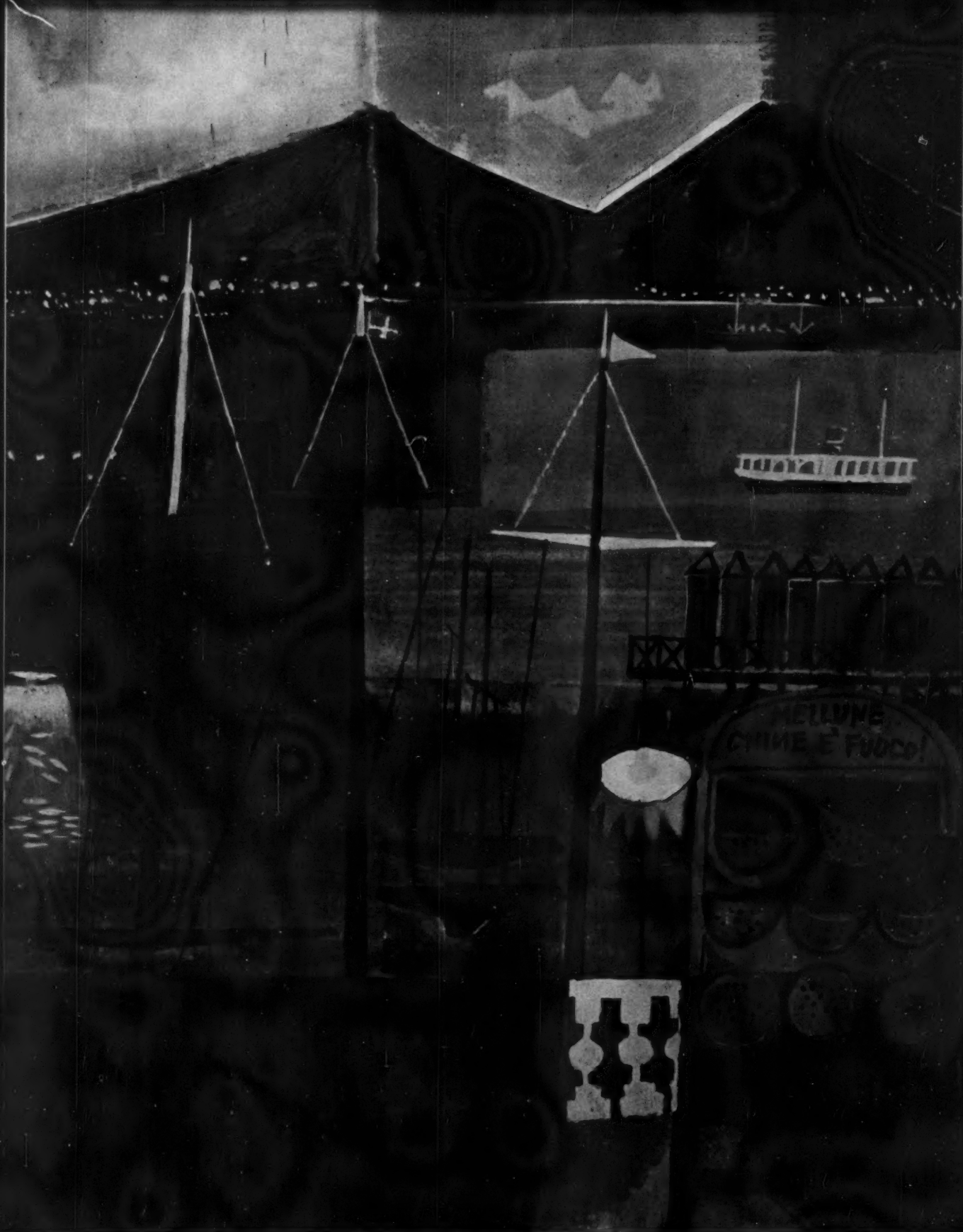
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We realise that the problem of credit for shipbuilding cannot be treated in isolation and that many other factors such as the balance of payments have to be taken into account. Nevertheless, both sides of the industry are agreed that the requirements of the shipbuilding industry ought to receive specially sympathetic consideration in present circumstances. They believe that, when even the most efficient yards in the country are failing to get orders solely because their competitors can offer more favourable credit terms, there is a strong case for enabling them to meet those terms. We are aware that the Shipbuilding Conference has been pressing for a long time the need for better credit facilities and that the Ministry of Transport have been investigating the subject. We recommend that the Government should give the industry's needs the most sympathetic and urgent consideration.

Modernisation and Re-equipment

The U.K. shipbuilding industry has invested large sums in modernising and re-equipping its yards. Between 1951 and 1956 gross investment in the shipbuilding, shiprepairing and marine engineering industries (excluding the Royal Dockyards) averaged £8 million per annum, representing between 2 and 3 per cent of turnover or $4\frac{1}{2}$ per cent of net output. In 1957 gross investment was estimated at £14 mn and in 1958 at £18½ mn representing 5 per cent of turnover or $9\frac{1}{2}$ per cent of net output in that year. Investment is expected to continue at or above this level until current modernisation plans are completed. The lower rate of investment up to 1956 is largely explained by the fact that, up to 1955, investment was generally under Government control both financially and through steel allocation, and the requirements of shipbuilding did not get so high a priority as those of other industries.

Shipbuilding facilities in the traditional shipbuilding



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Mastodonsaurus the stegocephalian, with a skull three and a half feet long, was the largest of the world's amphibians, a creature of the Carboniferous swamps that existed between 215 and 300 million years ago.

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countries of Europe, except Sweden, were severely damaged if not completely destroyed during the war. In the rehabilitation of their industries these countries were able to develop their shipyards on the most modern lines and in the process increased their capacity. In the earlier postwar years this development was to a large extent financed by American Marshall Aid counterpart funds under the European Recovery Programme.

In Western Germany the main shipbuilding facilities were almost entirely dismantled after the war but in 1949 Germany was allowed to build small ships, and in 1951 all restrictions on size were removed. The rehabilitation of the German shipbuilding industry primarily sponsored by the United States was greatly helped by the allocation of ERP funds, by low interest state loans and income tax concessions which exempted 50 per cent of business profits from tax provided the funds were used as interest-free loans for shipbuilding. This trend towards expansion still continues and new or greatly extended yards have been built in Holland, West Germany, Sweden, Norway and Denmark, and have been largely financed, in Scandinavian countries, out of tax-free investment reserves.

In Japan also, once restrictions were lifted, the renewal of the shipbuilding industry was encouraged by way of an interest subsidy on shipbuilding loans and tax concessions. The huge expansion of Japanese shipbuilding capacity has also been influenced by the placing of orders for very large tankers by Greek-owned American-financed companies and by American shipowners for registration under flags of convenience particularly during the years 1955 to 1957 at a time when shipbuilding capacity in other countries was fully occupied.

In contrast, financing of the modernisation of British shipyards has been carried out almost entirely from the industry's own resources. We see no grounds for thinking that the present rate of investment in the U.K. shipbuilding industry is unsatisfactory, bearing in mind that it is being mainly directed to improving efficiency rather than expanding capacity, though it does have the latter effect. Most of the yards have now been modernised and re-equipped, some of them to a standard fully equivalent to that of their most efficient foreign competitors. Construction times have greatly improved in consequence.

We welcome the recent setting up by the shipbuilding industry of an organisation to carry out a systematic study of production methods, and the appointment of appropriate staff to the British Shipbuilding Research Association. We urge that studies should not be confined to ship construction methods but should also cover means of improving the efficiency of fitting out ships.

Government-assisted Competition

Subsidies are available in France and Italy for shipbuilding for both home and export markets. These are intended to compensate for the higher costs shipbuilders in these countries have to bear and undoubtedly lead to a loss of orders for British shipbuilders both from these countries and from others. We know that they have given rise to protests in other countries and it is possible that the development of the Common Market may lead to some improvement. Construction-differential subsidies are also given in some other countries, notably the U.S.A., for ships for the home market.

Differences in the structures of national taxation systems and in the individual bases and methods of levying revenues for national and local purposes render virtually impossible any absolute comparisons, as between the U.K. and other countries, of the effect of taxation on shipbuilding and shiprepairing. Generally the national taxation arrangements in other countries, as in the U.K., do not single out shipbuilding and shiprepairing for specially favourable

treatment as compared with other industries in their respective countries. Taken all in all they do not appear in the long run to be markedly more favourable to shipbuilding than those in the U.K. We believe, however, that the rapid development of the shipbuilding industries in the Scandinavian countries, notably in Sweden, has been stimulated by arrangements which, although not confined to shipbuilding, enabled them to build up the necessary funds for modernisations and extensions by the creation of tax-free reserves out of profits.

More flexible treatment in certain other countries in regard to allowances for the amortisation of capital expenditures on industrial structures could also have been an important factor in encouraging their shipbuilding and shiprepairing industries to further investment in this form of productive equipment. But such arrangements may well be balanced by U.K. measures such as investment and initial allowances. From time to time certain countries are understood to have adopted various taxation measures designed to encourage production for export, including shipbuilding exports; and in Canada the shipbuilding industry is indirectly assisted by provisions whereby shipowners liable to Canadian taxation are granted accelerated writing-off allowances on ships built in that country.

Labour Relations

We have given particularly careful consideration to labour relations in the industry. We are satisfied that the industry has suffered and is suffering from many disputes; that these cause interference with work programmes; and that they have on occasion made it impossible for a firm to deliver a ship on the promised date, which has undoubtedly created difficulties in getting further orders. We are satisfied that the utilisation of labour in the industry is a matter of major concern, but there is divided opinion between shipbuilding employers and trade unions as to whether or not further flexibility between trades would improve the efficiency of the industry. Difficulties about the utilisation of labour arise to a greater or lesser extent in many yards, no matter how good their labour relations are. We understand that foreign yards do not suffer so much from these difficulties.

Although both employers and trade unions criticise each other, we are satisfied that no useful purpose would be served by attempting to apportion responsibility for the present state of affairs. It stems from the history and traditions of the industry which die hard and have their effects even after the original cause has disappeared. It is sufficient to say that changes in production methods can lead to fear of loss of status or employment in a trade even in good times and militate against workmen's ready cooperation in their adoption. We are agreed that in the present developing crisis of the industry it is not common sense to let things go on as they are. We believe that with good will and determination on both sides substantial improvements can be made. We fear that if they are not made the industry may not be able to compete effectively and that all will suffer.

We therefore recommend that all managements should make the most strenuous efforts to improve labour relations and engender understanding and trust among their workmen. In this connection it might be of assistance if employers encouraged their managements at all levels to follow good practice in personnel management. Trade union leaders also have their responsibilities and they should make the most strenuous efforts to improve labour relations. They should continue to take the necessary steps to advise their members of the serious prospects facing the industry and the need for the maximum cooperation between management and workpeople to achieve the most efficient methods of production.

Neither of these recommendations could be effected with success without the other, and neither side could make any really significant move unless the other also took action. We are sure that we are not unrealistic in making these recommendations. We know that both sides have a deep interest and pride in the industry and we believe that it should be possible for them together to face up to the situation. We recommend that in this spirit employers and trade unions should together review their arrangements for avoiding and settling disputes. The avoidance and settlement of demarcation disputes is of particular importance.

We recommend too that the joint yard consultative committees set up during the war, where they have lapsed, should be reinaugurated or revived. All such committees should meet regularly for free consultation about ways and means of improving efficiency and techniques, and for promoting mutual understanding. These committees will require careful handling if they are to be effective. They must not be sidetracked, as some of them have been in the past, into dealing solely with welfare matters or becoming involved in questions of pay and allowances. The last-mentioned subject should be left to be dealt with under the industry's normal negotiating machinery.

These committees must be at yard level, as yards vary so much in their method of working. Yard committees will, however, inevitably find themselves faced with questions which require national discussion. We recommend therefore that employers and trade unions should constitute themselves as a national joint consultative committee to deal solely with such matters of this nature as are of national interest. We recommend that it should meet as and when required, and that it should be responsible for keeping alive at all levels the spirit of cooperation.

Rationalisation

We have given some preliminary consideration to the need for rationalising the industry. Our view at present is that there should be no need for any major reduction in the capacity of the industry if our recommendations are carried out effectively. Most of the present capacity will be required if the industry is sufficiently competitive to attract its proper share of orders when demand recovers, taking into account the fluctuating nature of shipbuilding demand. There will continue to be an important place for the small specialised firms.

We do not feel at present that we should positively recommend the amalgamation of firms, though this is a subject which merits continued consideration. It might for example lead to advantages in making greater financial resources available to companies and might facilitate a greater pooling of effort. We understand however that concentration in really big shipbuilding units may not in itself necessarily lead to greater efficiency.

We are therefore content for the present to recommend that managements should bear in mind the possible advantages of amalgamations and should, whenever practicable, cooperate to share effort and the use of expensive equipment. We have noted that a number of firms are already in groups within which joint arrangements are made wherever this is considered to be economical and practicable, and we are aware that there is cooperation between some other yards in pooling resources.

Importance of the U.K. Shipping Industry

The prosperity of the shipbuilding industry in the U.K. is essentially tied to that of the U.K. merchant fleet. The industry is therefore keenly interested in any development affecting the merchant fleet and awaits with great interest the Government's reaction to the General Council of

British Shipping's recent Survey of British Shipping. We have considered whether we might recommend a scrap and build scheme or a scheme for subsidising the scrapping of ships in the hope that these schemes might lead to an increase in the volume of orders for new ships. We recognise however that the merits of any such schemes must be determined primarily on consideration of their benefit to the U.K. shipping industry. We appreciate that any purely national scrap and build scheme is unlikely to be advocated by British shipowners and that the prospects of any international scheme for scrapping older tonnage are remote. But we trust that the Government will consider these, and any other similar possibilities, while they are examining the Survey Report of the General Council of British Shipping.

Orders for the construction of Government-owned ships, and in particular ships for the Admiralty, constitute an important element of the industry's work. Both sides of the industry have pressed that the Government should consider increasing the volume of orders for Government ships, in particular ships for the Admiralty, to help to maintain employment at a time when we expect the demand for merchant ships to fall off. We recognise the difficulties that this would involve, e.g. the need for more or at least earlier finance. Nevertheless, even a small amount of additional work would help some firms to hold their labour force until the demand for merchant ships begins to recover. We therefore recommend that the Government should review its planned requirements for ships with a view to placing as much work as practicable with the industry in the next two or three years.

BOOK REVIEWS

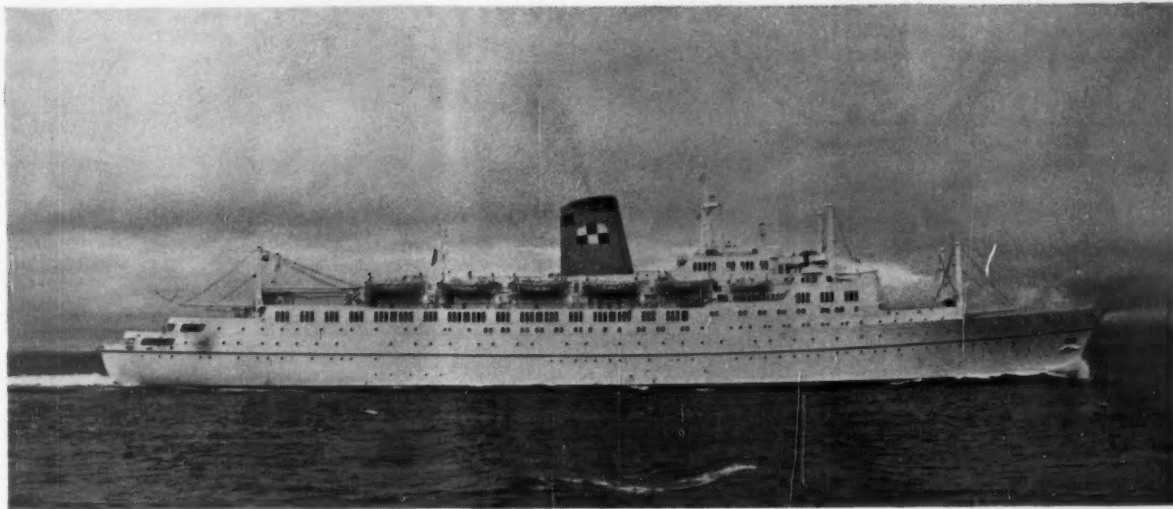
Schiffsliste—1961 (Eckardt & Messtorff Verlag, Beim Alten Waisenhaus 1, Hamburg 11, Germany. Price DM12).

The latest edition of this work follows closely the model of former editions and comprises a list of German shipowners and their ships of more than 100 grt as at January 1. The first section consists of a list of shipyards. The following sections comprise the main section of the book and list turbine ships, motorships under 300 grt, motorships over 300 grt, tankers and fishing vessels. Details are given of the vessels' names and former names, signal letters, year of build and shipbuilder, machinery type, power, deadweight, gross and net tonnage, speed, dimensions, cubic capacity and owners. The last section lists shipowners and gives their addresses and a fleet list and gross tonnage. For all interested in West German shipping this work is essential.

All About Ports—United Arab Republic (Egyptian Region).

Edited by Maj. Ahmed K. El-Tobgy and Aly Hassan Abd El-T Rahman (The Maritime Agency, Cairo, U.K. distribution by Avgherino & Aperguis, 146 Bishopsgate, London EC2. Price £3 3s 6d plus postage).

The rather cumbersome title of this English-language book is a fair enough description of its contents. A considerable amount of information is given of seven ports in the Mediterranean and 13 Red Sea ports, though in the case of some of the smaller and lesser-known ports, such as Rosetta, there is no indication of what sort of traffic is handled beyond local sailing craft. In the case of the larger ports the range of information covers, among other things, tides, anchorages, berthing facilities, port plant, quarantine regulations, pilotage and towage arrangements, port services and details of harbour lights and buoys, as well as small-scale charts with soundings in feet. Separate sections are devoted to lighthouses, general rules and regulations, dues and tariffs and bunkering arrangements. Though the ports at both ends of the Suez Canal are dealt with fully, surprisingly there is no separate section covering the canal itself. The jacket claim that this is "the first up-to-date publication in which any individual can find interesting facts" is, to say the least, a bit sweeping; but there is no doubt of its being a useful publication.



The "Empress of Canada"

NEW PASSENGER LINER FOR CANADIAN PACIFIC

THE NEW passenger liner *Empress of Canada* was scheduled to sail from Liverpool on April 24 on her maiden voyage to Montreal. This vessel, which is of about 27,300 grt, has been built for Canadian Pacific Steamships by Vickers-Armstrongs (Shipbuilders) Ltd, Walker-on-Tyne. She is the third in a series of new ships delivered during the past four years, which started with the *Empress of Britain* (SW, 25.4.56), built by the Fairfield Engineering Co Ltd. A second vessel, the *Empress of England*, was delivered in 1957 by Vickers-Armstrongs (Shipbuilders), Walker (SW, 1.4.57). These vessels were almost identical, each had a gross tonnage of about 25,500 and similar overall dimensions. The *Empress of Canada*, however, is slightly larger. She has been built not only for the company's passenger and cargo service between Great Britain and Canada, but also for cruising in tropical waters during the winter season.

Altered Midship Structure

Structurally the new ship is different from the other two vessels, mainly in the section between the navigation bridge and the funnel. Here there is a covered play deck and also small sheltered observatory lounges port and starboard. During model tests the problem of pitching was given special attention, with the result that a bulbous bow has been incorporated in the hull design. This feature, together with the Denny-Brown stabilisers, which should reduce a roll of 18 degrees to one of less than six degrees, will add considerably to the comfort of passengers in bad weather.

The funnel too is slightly different from the other two ships, but is still of conventional design with the company's red and white checkered houseflag represented on either side. Painted white with a green band running from stem to stern, and with green boot topping, the *Empress of Canada* presents a fine picture. She is of modern design, yet in every way a ship, and her accommodation is well planned and the decor extremely pleasing to the eye. There are some who may think it a trifle dull—possibly after a surfeit of what is called "contemporary"—but care has obviously been taken to suit all tastes and even though criticisms may be levelled

at the Banff Club, with its bar fronted with cowhide panels, tooled with "authenticated Canadian ranch brands", the public rooms are most comfortable and restful to the eye: and on a cruise one needs this relaxation after being out on deck in bright sunshine.

The *Empress of Canada* is powered by machinery of the same design and output as the other two ships, comprising two sets of PAMETRADA design double-reduction geared turbines employing a system of reheat developed by Fairfields, who built the *Empress of Britain*. The design of this machinery was described in the article on this ship in April 1956, and an article on the gas reheat system appeared in THE SHIPPING WORLD of 6 June 1956.

The *Empress of Canada* is the largest ship specially built to navigate the St Lawrence river as far as Montreal, and is, incidentally, the largest ship built on the Tyne since the *Mauretania* was constructed there over 50 years ago. The keel of the *Empress of Canada* was laid



The wheelhouse contains a chart table placed to starboard of the helmsman. There is also an adjoining chart room

in January 1959, and she was launched by Mrs John G. Diefenbaker on 10 May 1960.

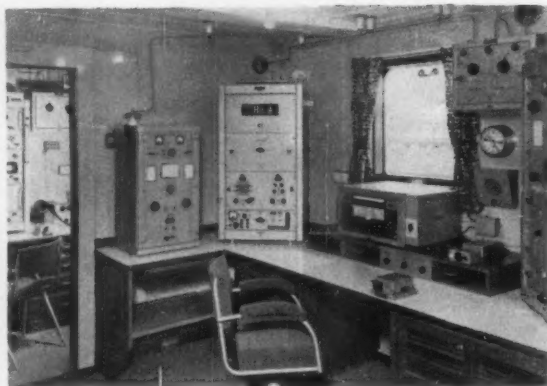
The principal particulars of the new ship are as follows:

Length o.a.	650ft
Length on waterline	616ft
Length b.p.	600ft
Breadth moulded	86ft 6in
Depth to main deck	48ft
Draught (extreme)	29ft
Displacement	26,950 tons
Gross tonnage	27,300 tons
Net tonnage	14,200 tons
Machinery output (service)	27,000 shp
Machinery output (maximum)	30,000 shp
Average speed	20 knots
Number of passengers—first class	192
" " " tourist	856
" " " crew	510
Cargo capacity:	
general	262,000 cu ft
refrigerated	16,170 cu ft
cargo oil	344 tons
Storeroom capacity:	
insulated	22,300 cu ft
dry	54,600 cu ft

The *Empress of Canada* has been built to comply with the latest Ministry of Transport requirements for foreign-going passenger vessels, and also to the highest class of Lloyd's Register of Shipping. Apart from the bulbous bow the underwater form is of conventional design, and is based on model experiments carried out in the ship-builders' experimental tank at St. Albans. The subdivision is based on a two-compartment standard and the metacentric height is sufficient to enable the vessel to meet the onerous conditions laid down by the Ministry of Transport for side damage. In view of the necessity for good handling in navigating the St Lawrence river special attention has been given to the rudder design to



The two Marconi Radiolocator 1VB 15-in radar display units. Set into the panel above each unit is its radar track indicator control unit for true motion facilities



A corner of the telegraphy section of the wireless room, looking through to the radiotelephony section and the telephone terminal assembly

ensure manoeuvrability at low speeds.

The structural design is comparable with that of the *Empress of Britain*, which was more advanced than that of any previous large passenger vessel built in Britain for the North Atlantic trade, involving a combination of longitudinal and transverse framing and employing welding to a far greater extent than is general for a vessel of this class. In addition the sheerstrake and two strakes of plating about the waterline are of special welding quality steel, and the scantlings of the frame and the shell forward have been increased for ice stiffening.

All butts are welded and there are only six riveted seams on each side, frames in all cases being riveted. All decks are welded, the beams being angles with continuous full welds, except at the promenade deck and above where the beams are intermittently welded. Special attention has been given to the pillaring arrangements, and in view of the high stresses involved an expansion joint has been incorporated in the superstructure. The vessel is subdivided below the bulkhead deck by eleven watertight bulkheads, and above the bulkhead deck by six main fireproof divisions, giving seven main fireproof zones.

The large three-panelled shipside screen windows are a feature of the design. They have been developed by Beclawat to meet the owners' requirements and have a built-in handrail which enables passengers to have unrestricted views whether seated or standing. The same treatment has been extended to large windows for the public rooms in the main deckhouses, where Henry Hope & Sons Ltd have produced windows of size and beauty outstanding for a vessel on North Atlantic service.

There are five holds, arranged three forward and two aft, and the bridge has been so disposed that Nos 1, 2 and 3 hatches are forward of this structure, thus giving unrestricted open deck space abaft the bridge for passenger accommodation and keeping the cargo working arrangements clear of the passenger spaces to a maximum extent. No 2 hatch is large and arranged for the carriage of motor cars in tiers on MacGregor hatch covers of a type designed to facilitate rapid discharge. No 4 cargo space is served by twin hatches and No 3 hatch is arranged to serve the refrigerated cargo and provision chambers, and also the baggage and mail rooms. All hatches are served by 5-tons derricks with the exception of No. 2, where 10-tons derricks are fitted.

All weather deck hatches in way of passenger spaces are flush. No 1 hatch is equipped with MacGregor patent single-pull type steel covers. Special tweendeck hatch covers, also designed by MacGregor, have been



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of Canada
is fitted with

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Weir



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is fitted in the "EMPRESS OF CANADA"

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The System comprises :

TWO WEIR "REGENERATIVE"
CONDENSERS BUILT UNDER
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introduced at convenient levels in each of the hatch trunks.

There are ten Laurence Scott winches. Eight are designed for lifting 3 tons at 130 ft/min and the other two are capable of lifting 5 tons at 90 ft/min. Each winch has remote control gear which is positioned in association with a winchman's shelter to allow the operator to have a clear view of the winch and the hatch.

The vessel is fitted with cable-lifting and warping capstans by Stothert & Pitt Ltd, the machinery being electric with spur and bevel gearing. Two continued cable-lifting and warping capstans are fitted forward with machinery below deck. Each cable lifter used singly is capable of exerting a pull of 38 tons at 50 ft/min. There are also two independent warping capstans forward, the machinery being located below. Each capstan barrel is capable of exerting a pull of 12 tons at 50 ft/min.

On the after weather deck there is a combined cable-lifter and warping capstan with a pull of 15 tons at 40 ft/min, the machinery for which is below deck, and also two independent warping capstans, of similar power to the forward independent capstans, with the machinery inside the deckhouse. The anchor gear consists of three stockless bower anchors, each weighing 140 cwt, and a Byers improved type stockless stern anchor weighing 77 cwt, with Tayco stud link chain cable by Samuel Taylor & Sons Ltd.

Lifeboats

There are six 37ft 6in hand-propelled lifeboats, each holding 152 persons, also two 37ft 6in class A motor lifeboats each accommodating 144 persons and two 31ft 6in class B motor lifeboats each accommodating 152 persons. In addition there are two 28-ft emergency motor lifeboats each accommodating 60 persons. All lifeboats are of glass fibre and built by Hugh McLean & Sons Ltd. The motor lifeboat engines are by Thornycroft, the emergency motor lifeboat engines by Petters, and the hand-propelling gear is of the Fleming type. The motor boats are easily convertible for cruise service requirements.

The davits are Welin-Maclachlan overhead gravity type, of the latest design. The winches, which are totally enclosed, are fitted with Laurence Scott motors and the controls are arranged so that the lifeboat can be watched from the boat deck to the water while being lowered.

The vessel is fitted out in excess of Ministry of Transport and Convention requirements in respect of fire



The St Lawrence Club is one of the first class public spaces. Behind the bar are armorial plaques of French Canadian families associated with the river. To the right can be seen pictures of ships of the past that used the St Lawrence river

protection and fire appliances. In addition to being subdivided into zones by fireproof divisions, she is equipped with Grinnell automatic sprinklers and a fire detection and fire alarm system in the accommodation and service spaces. In the cargo spaces a Pyrene smoke detecting and CO₂ fire extinguishing installation has been fitted. In the boiler room and the auxiliary machinery room there is a separate installation of CO₂ equipment with high and low-level supplies.

The central fire-control station in the wheelhouse incorporates the alarm indicators, the smoke-detecting cabinets giving audible and visual signals, stop switches for main fans as well as alarm bells and telephones. In addition there are two other control stations, one forward and one aft, each situated near a crew's gangway and complete with alarms and telephones and providing facilities for organising firefighting and distributing appliances and equipment. Each station is capable of being in touch with any part of the ship and, when in port, with the local fire brigade.

The watertight doors were supplied by John Broadfoot & Sons, and are operated by Stones' all-electric control system incorporating a special bridge controller and indicator.

To comply with the Ministry of Transport requirements for fire precaution within the accommodation of passenger ships, nearly 50,000 sq ft of Marinite, in various thicknesses and with several finishes, has been used for protection of Class A60 divisions within passenger accommodation, in public rooms, stairwells, and main entrances, and for galley ceilings. On the promenade deck a block of cabins was erected using Marinite for the boundary bulkheads to form a fire escape passageway to the main stairwell.

The *Empress of Canada*, in company with the *Empress*



The Coral swimming pool has surrounding walls of coral and seaweed pattern Wareite. The seaweed design is made with silver, gold and old-gold metallic foils

of England, is similarly equipped with air-conditioning to the *Empress of Britain*, which was the first completely air-conditioned passenger ship to be built in the U.K. In the latest ships the plant has been supplied by the Carrier Engineering Co Ltd, and is the first full-scale application of their new "Marinair" air conditioning system for passenger vessels. High velocity distribution is used with a terminal unit specially designed for cabin spaces so that passengers may adjust the temperature to their liking without unbalancing the system. Even the enclosed promenades, which contain so much glazing, are provided with partial cooling in summer and heating in winter.

Twenty-seven prefabricated central-station air conditioning units have been used to distribute air at high velocity to all the public rooms, passenger and crew accommodation. These units are equipped with a special damper which automatically adjusts the mixture of outside air and conditioned air to economise on refrigeration. All first class, tourist class and senior officers' cabins have been fitted with Marinair constant-volume room reheaters providing individual automatic control of temperature. The reheater is automatically controlled by a room thermostat which operates an insulated sliding "glove" over the hot water coil in the unit, thus adjusting the room temperature without the use of modulating water valves. The working part of the unit is hinged for easy inspection and is intended to be interchangeable for maintenance. These are entirely novel features.

The entire air conditioning system on the ship is controlled pneumatically. Only two types of thermostat are used having interchangeable working parts, the RMR room thermostat, and the DRM duct thermostat fitted in



The Canada Room is common to both first class and tourist passengers. This domed and galleried ballroom is decorated in blue and grey with black and lemon in woven patterned materials

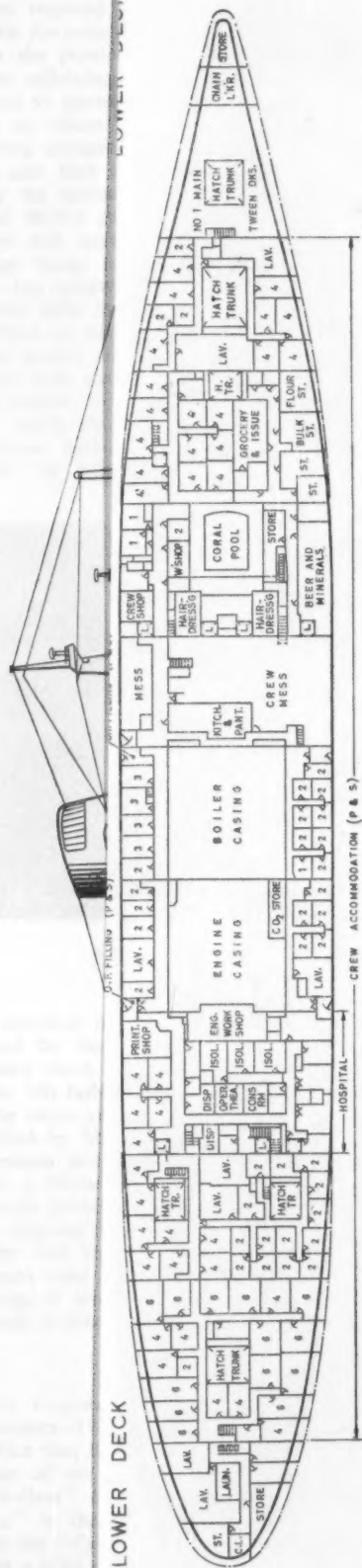
the ducting at each central station plant. Pneumatic control is applied to the automatic mixing damper at each central station plant. To compensate for the variation in weather conditions at different latitudes and to take care of the cyclic internal load variations, the ship is provided with an automatic diversity control system. This system is synchronised with the ship's chronometer and minimises refrigeration and heating requirements at "off-peak" periods. Two 400-hp electrically-driven Carrier centrifugal refrigeration compressors are installed to provide the chilled water needed for the air conditioning plants. This plant is capable of dealing with about 9,000,000 BTU/hour.

For even distribution of air in the cabin accommodation, constant volume slotted grilles of the directional type are fitted. The temperature in all the public rooms is thermostatically controlled and the air is distributed through continuous perforated outlet grilles. The outlets in the crew accommodation are arranged for volume control.

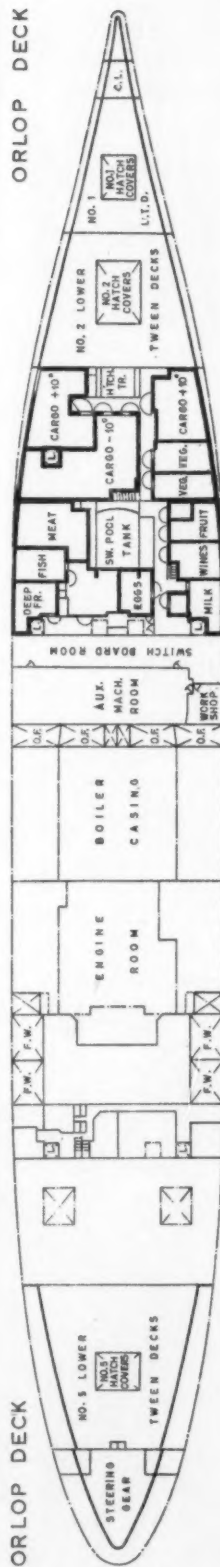
In addition to the air conditioning equipment in the public rooms and accommodation there are eight heated supply units serving the laundry, baggage rooms, store rooms etc, nine supply fan units, nine contaminated exhaust fans and fourteen other exhaust fans. Galley dependencies are provided with "comfort" air from the restaurants and a spot cooler is fitted in the confectioner's workshop. Extensive use is made throughout the ship of spiral wound circular conduit which greatly reduces the



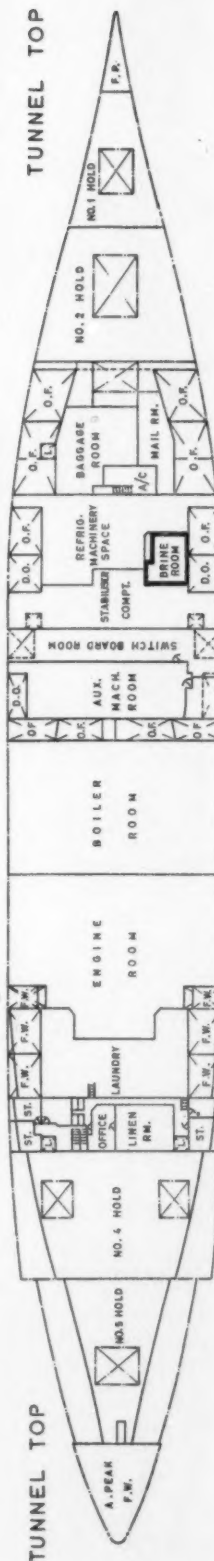
The Mayfair Room is the first class lounge. The general panelling is of white figured sycamore with furniture in mahogany. Under a portable section of the carpet a parquet dance floor is set into the deck



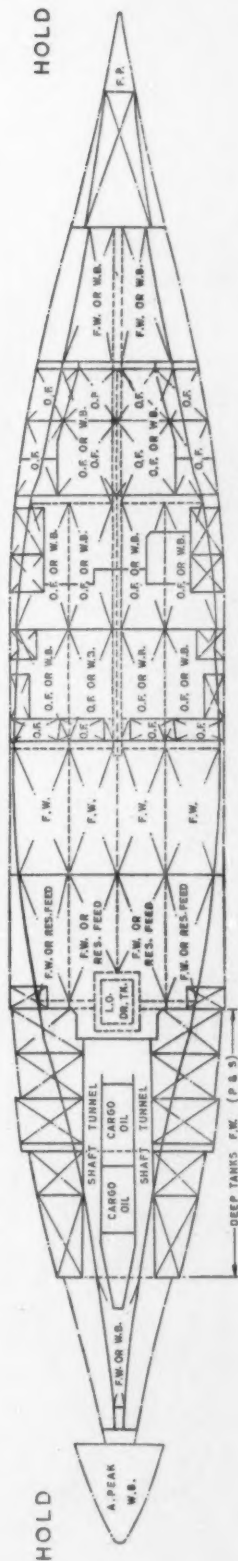
ORLOP DECK

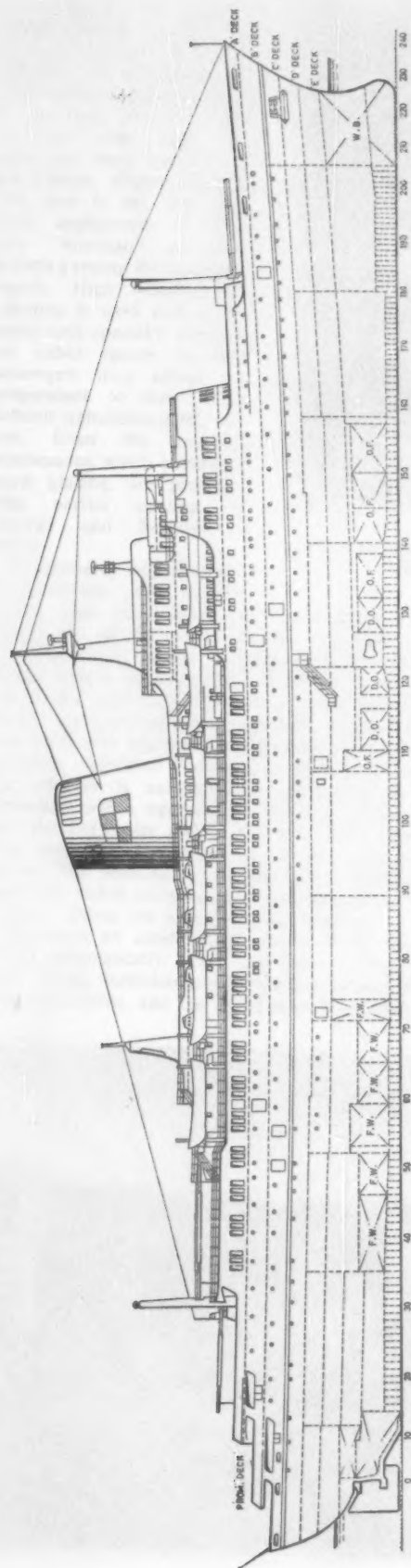


TUNNEL TOP

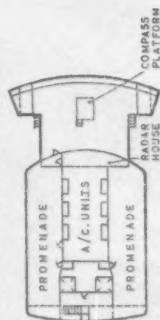


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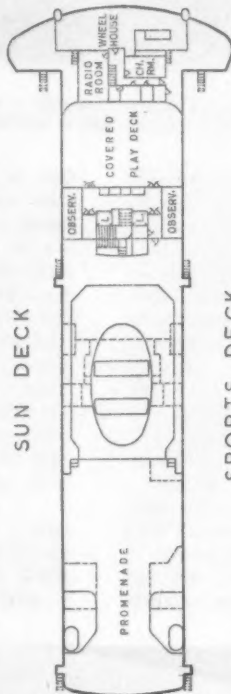




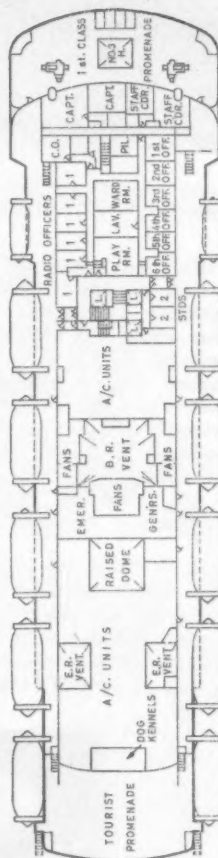
OBSERVATION DECK



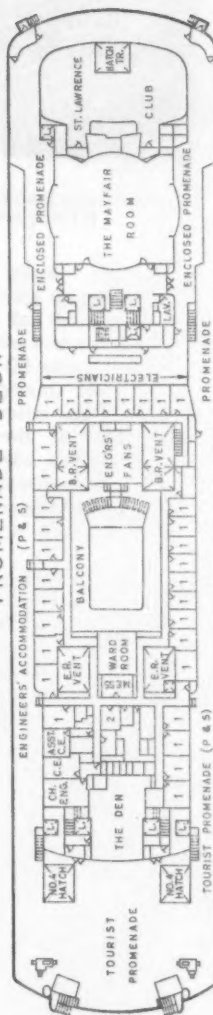
SUN DECK



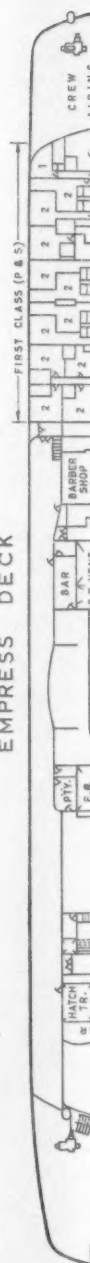
SPORTS DECK

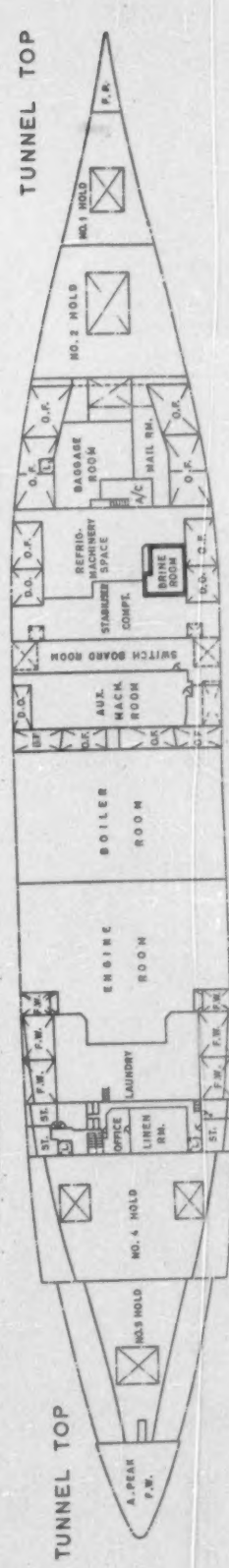
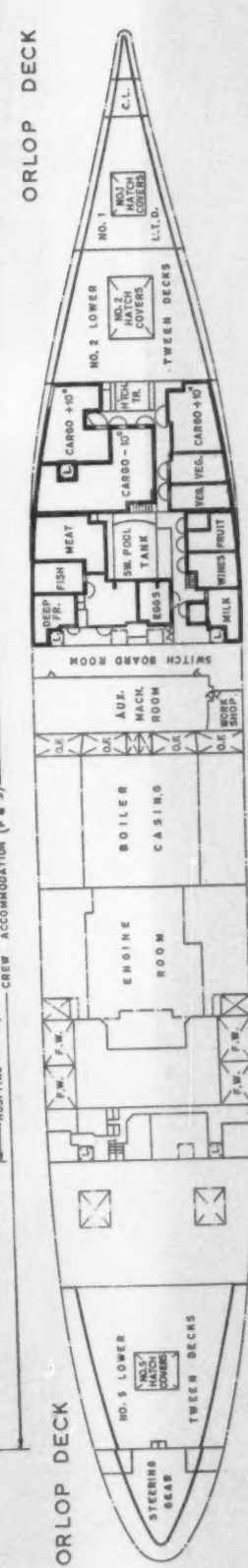
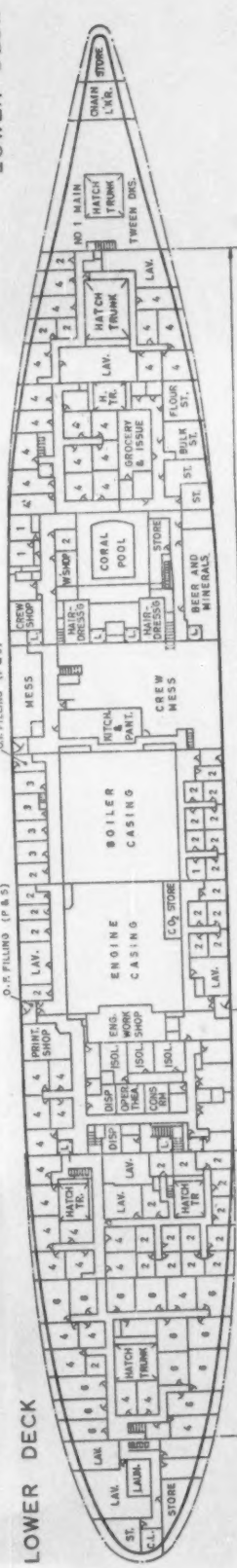
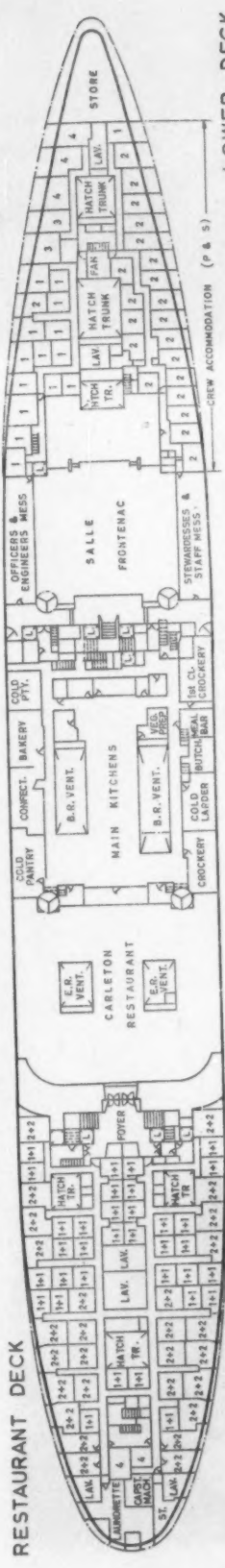
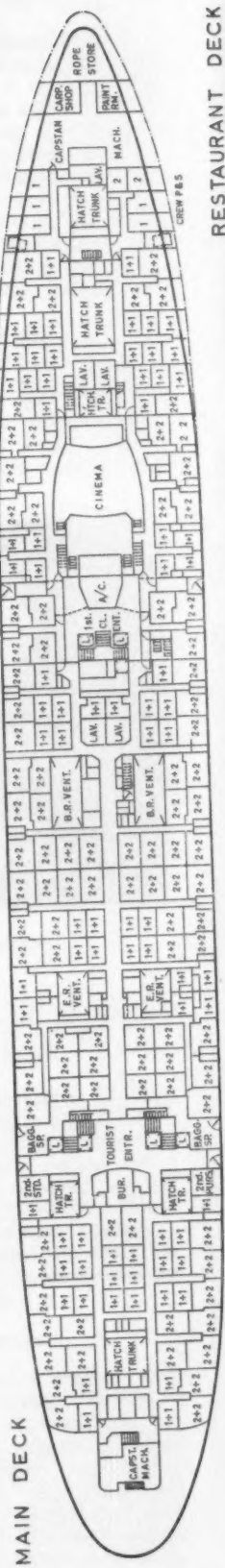
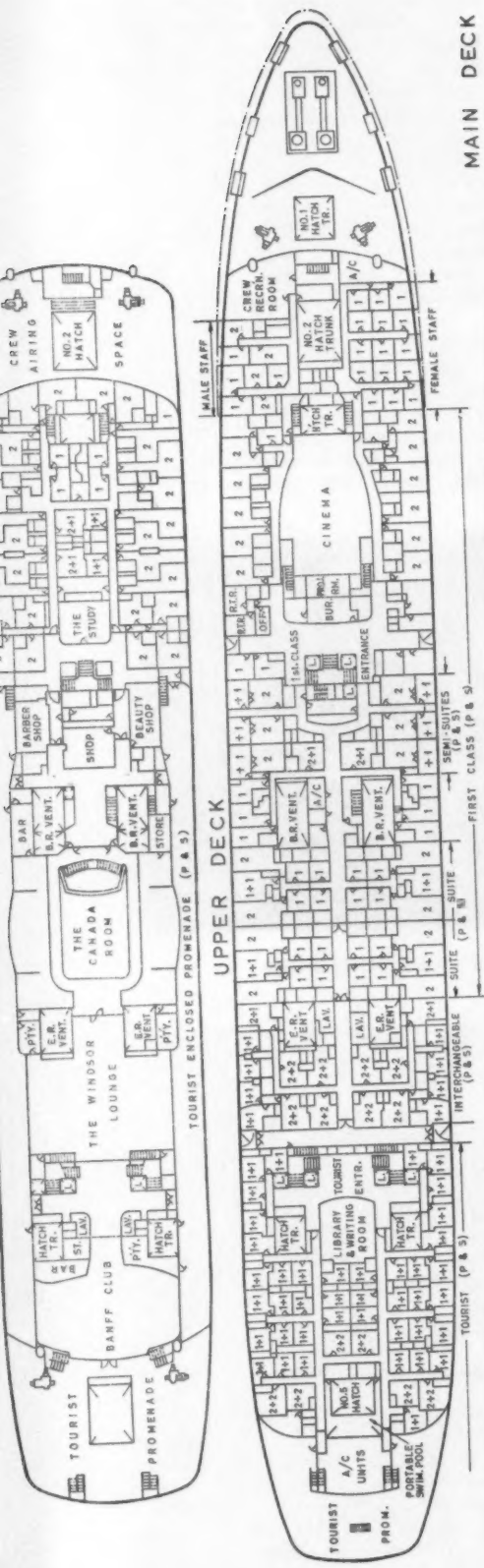


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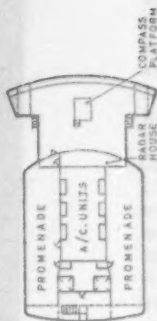
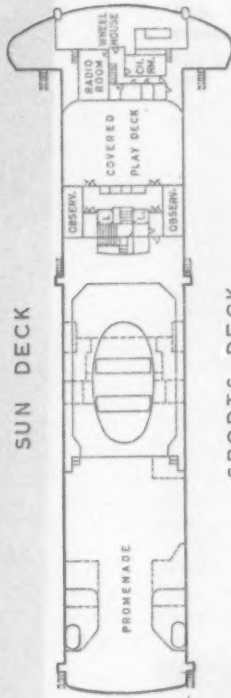


EMPRESS DECK

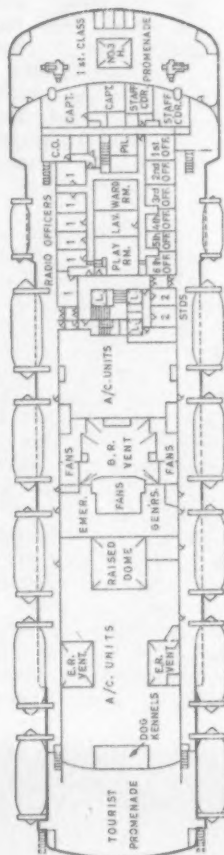




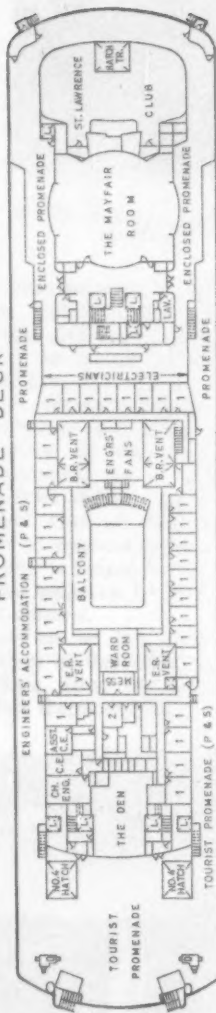
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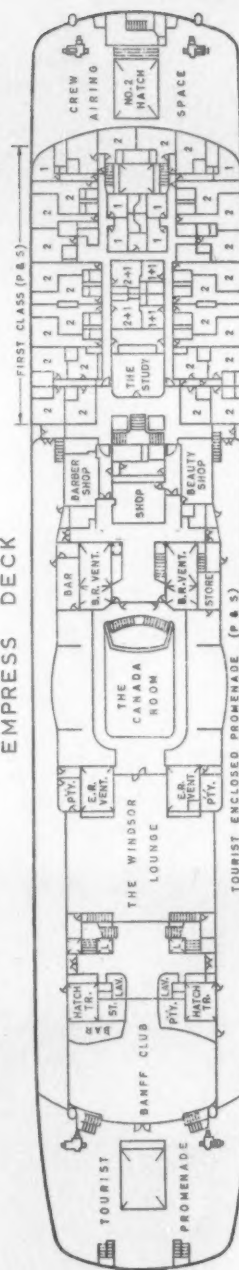
SPORTS DECK



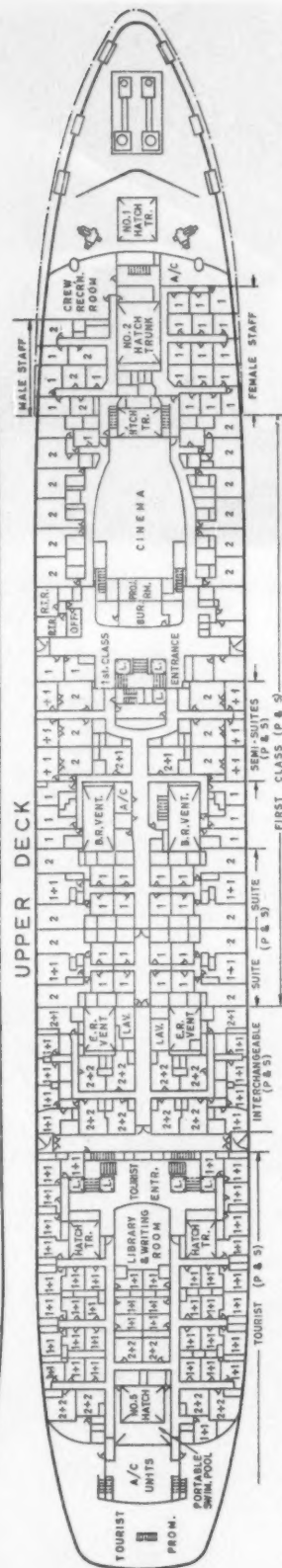
PROMENADE DECK



EMPERESS DECK



UPPER DECK



MAIN DECK



MAIN DECK



space required overhead and the weight and area of insulation required for the ducting.

The *Empress of Canada* has a much larger wheelhouse than the previous two ships. In addition to the chart room adjoining the wheelhouse there is a chart table placed to starboard of the helmsman, in such a position that an officer standing at the table can see the gyro steering compass, and also the telltale repeater compass, and also look over the top of the instrument panel to sight the horizon ahead. Navigational aids include an S. G. Brown gyro compass with repeaters in the wheelhouse and steering gear compartment and also on the bridge wings and compass platform, Decca Navigator, SAL log equipment with speed and distance indicator and electric helm indicators.

There are two Marconi Marine Radiolocator IVB 15-in radar display units and two antennae. Set into the panel above each unit is its radar track indicator control for true-motion facilities. To the right of these two units, and above the chart table, there is a Marconi gyro-stabilised Lodestar direction finder of a new type in which the pointer, once tuned, indicates automatically



A four-berth outside tourist stateroom

the direction of the incoming signal. On the bulkhead behind the chart table there is a Kelvin & Hughes echo-sounder which will give a continuous record of soundings up to 720 fathoms.

The radio and wireless telegraphy equipment has been supplied by Marconi, the radio telephony sets and W/T equipment being housed in separate rooms. These include a Globespan transmitter, Atalanta receiver and a Reliance emergency transmitter. For carrying incoming and outgoing messages between the wireless office on the bridge and the first-class and tourist-class bureaux, a Lamson tube system has been installed in which the message is inserted in a carrier and drawn by vacuum through a tube at a speed of 30ft/sec.

Passenger Accommodation

The *Empress of Canada* will carry a total of 1,048 passengers—192 in first-class accommodation. In view of the fact that this ship will cruise as a one-class ship, the names of the public rooms do not include the words "first-class" or "tourist". For example "Salle Frontenac" is the restaurant for the first-class passengers, while the "Carlton Restaurant" is for tourist passengers. From a brief examination it is obvious that the Canadian Pacific have spared no expense in the planning and fitting out of this fine ship. The decks have been named

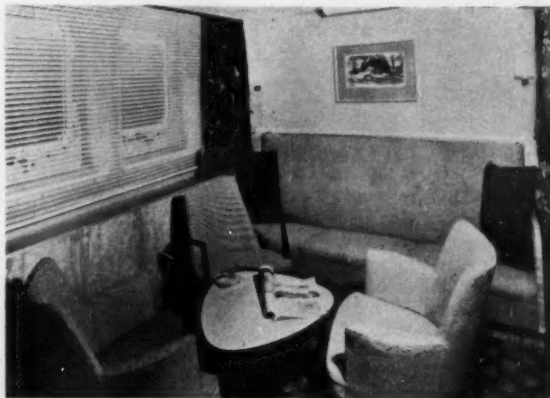


One of the first class bedrooms

throughout instead of some of them being designated by letters, as they are in the *Empress of Britain* and *Empress of England*, and to help passengers find their way around, special attention has been given to the type and position of signs, and stateroom doors on each deck are of a distinguishing colour so that passengers may at least see quickly whether they are on the right deck.

The following description of the accommodation and amenities on board the *Empress of Canada* is given deck by deck starting with the highest which is the Observation deck. This is a small space entirely for the use of first-class passengers. On the Sun deck below there are raised platforms, port and starboard, suitably arranged as small sheltered observatory lounges. Forward of this there is an enclosed play deck, also for first-class passengers and aft an open promenade space. At the forward end of the Promenade deck below is the St Lawrence club which has a central bar and suspended open timber roof, and immediately abaft this is the Mayfair room. A glazed screen separates the Mayfair room from the entrance hall, staircase and elevators. The enclosed promenades on either side of this deck have deep screen windows for their entire length. These Beclawat Sunwat windows, supplied by Beckett, Laycock & Watkinson Ltd, are of their three-panel type reaching almost from deck to deck.

Children travelling tourist have a wide and spacious rumpus room at the after end of the Promenade deck named the "Den". A sound-deadened recess houses cots and is to some extent separate from the main room.



First class upper deck accommodation



A corner of the large kitchen showing some of the chefs preparing a meal. Over 3,000 main meals a day are served

In this recess 352 sq ft of Paniquil padded and quilted plastic panelling has been used as a wall covering.

The after end is fitted with wide folding and hinged screens opening to the Lido deck and will, during cruising periods, allow of free access to the "Den" which is easily and conveniently converted for use as a verandah cafe and bar. This leads out on to the tourist promenade deck.

The first-class staterooms are at the forward end of the Empress deck, and the library and writing room, shop, beauty salon, barber's shop and kiosk follow on. The Canada room amidships with its central dome will be used for all social activities and has parquet flooring for dancing. This room terminates the long vista from the Lido deck aft some 240ft away, the whole being visible through the wide glass screens and doorways. Forward, double-screen doors, port and starboard, give access to the shopping centre.

The Banff club is at the after end of the enclosed accommodation on the Empress deck and overlooks the wide open deck space of the Lido which, under cruising conditions, is fitted with a portable swimming pool.

The Salle Frontenac, the first class restaurant on the restaurant deck, is on two levels adding interest to the seating arrangement. The central sunken area is flanked with banquette sofas, and the remaining space is arranged with free-standing tables for two, four and six persons. Forward, the raised low balcony space is fitted with the smaller type of table, and banquette seats are recessed at the extreme fore end. The total seating capacity is 220 with hot-plate dumbwaiter service for every six.

The kitchens and pantries are aft and separated from the restaurant by Colmans motor-operated revolving doors and further screened by free-standing panels inside the room. Passenger access is

The main machinery manoeuvring platform. The propelling machinery comprises two sets of double-reduction geared steam turbines designed for a combined output of 27,000 shp in service

by twin lifts and central staircase lands at a raised platform set between the service openings.

The Carlton restaurant is situated aft of the kitchens and extends to the full width of the ship and to a length of some 93ft. It is a spacious room of bolder design and in contrast to the elegance of the Frontenac.

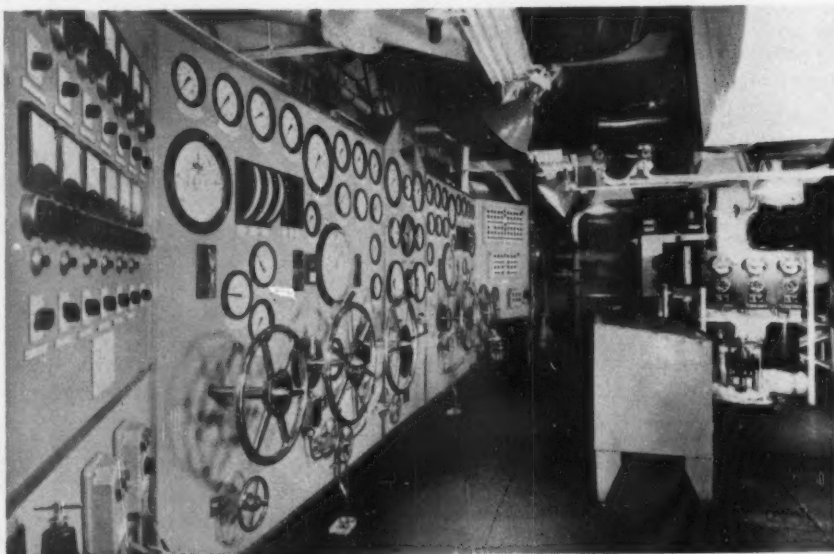
Among those firms who have supplied paints for the *Empress of Canada* are W. & J. Leigh Ltd, who have provided all the paint for the exterior of the ship above the waterline and certain interior sections; and Lewis Berger (Great Britain) Ltd, paint for the cargo spaces, machinery spaces and some of the machinery.

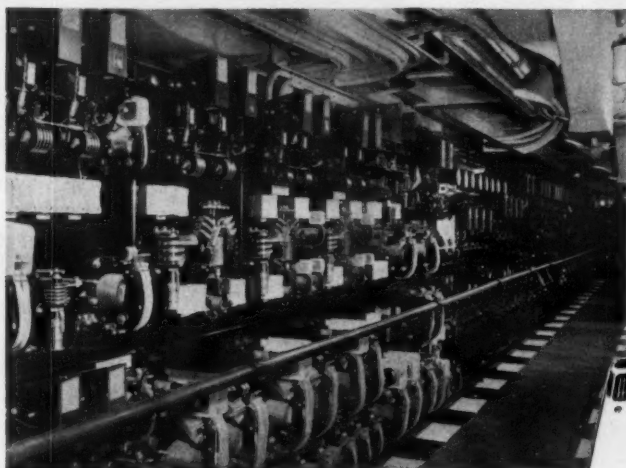
Propelling Machinery

The propelling machinery in the *Empress of Canada* is of the same design and output as that fitted in the two earlier ships, and comprises two sets of Vickers-Armstrongs-PAMETRADA double-reduction geared turbines designed for a combined output of 27,000 shp in service and a maximum of 30,000 shp. The installation works on the reheat system as developed by Fairfields, who built the *Empress of Britain*. This system offers a saving in fuel consumption of about 6 per cent, but it should be appreciated that its use is best suited to installations of high output where the use of three boilers would in any case be necessary. The main boiler installation consists of two Foster Wheeler controlled superheat boilers and one Foster Wheeler reheat boiler. In general, the additional cost of installing an extra boiler would not offset the saving in fuel gained by making use of the reheat system.

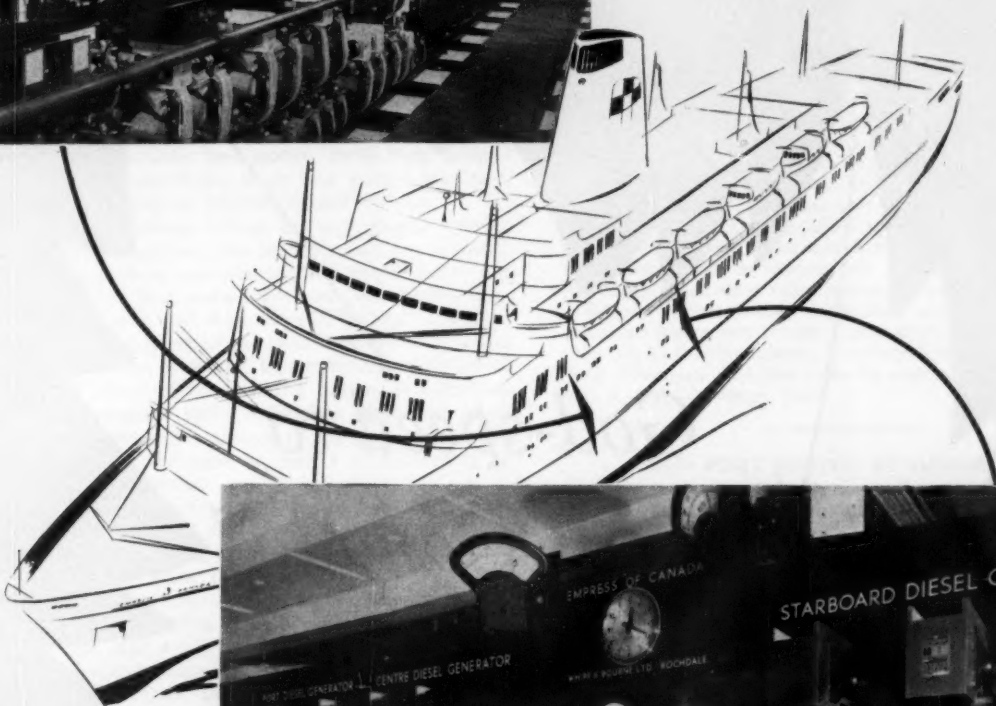
The arrangement of the machinery is similar to that in the two previous ships. The propelling machinery is slightly aft of amidships with the boiler room forward, then the auxiliary machinery room, switchboard room, stabiliser compartment and refrigerating machinery space. The general layout is spacious with plenty of room for supervision and maintenance.

Each main turbine set consists of an HP and IP turbine in tandem and an LP turbine driving their own pinions at 4,195 rpm and 3,452 rpm respectively. The turbines are designed to take steam at 600 lb/sq in and 850 deg F, and to operate on the reheat cycle already mentioned, whereby the HP exhaust is reheated to the initial temperature of 850 deg F before it enters the IP. Steam to the HP turbine is admitted through two groups of nozzles and there is





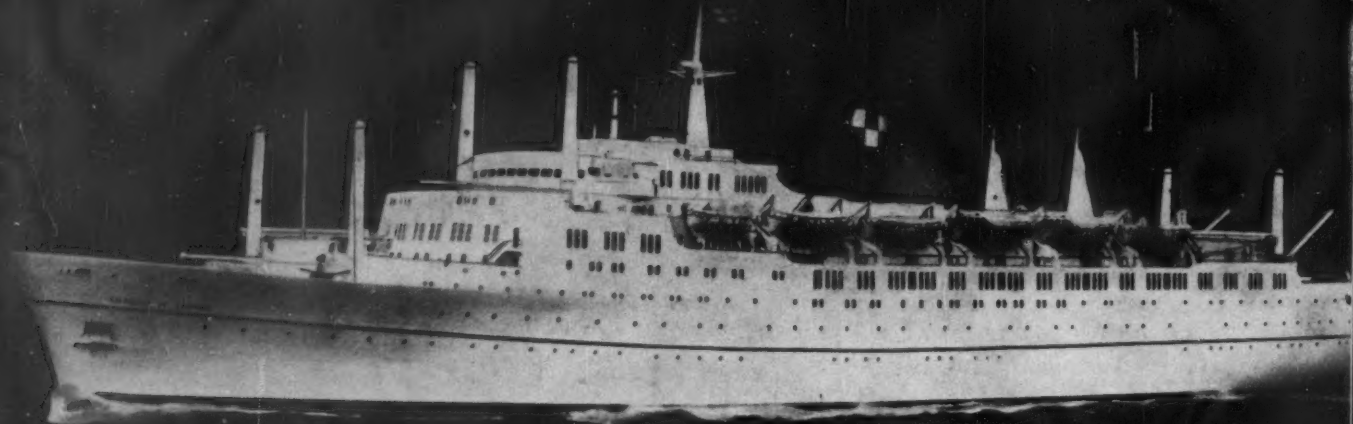
The Nerve Centre . . .



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also an overload port, which bypasses the first three stages. One of the two groups of nozzles is controlled and the arrangement is such that steam is not available at the overload valve unless the nozzle control valve is open.

The condensate is withdrawn from the condensers by Weir vertical-spindle extraction pumps. There are four such pumps, two service and two standby, each capable of dealing with 150,000 lb/hour at 1,350 rpm when delivering against a head of 30 lb/sq in. The pumps are of the centrifugal type, and the vertical spindle arrangement permits the maximum use of the available static head below the condenser.

Vacuum is maintained by steam jet air ejectors, two being provided, one for each condenser. The working pressure is 500 lb/sq in and the temperature 850 deg F, steam being obtained from the main steam range. The ejector condensers are circulated with condensate discharge from the extraction pumps. On leaving the air ejectors the condensate passes through a gland condenser port and starboard, thence through a single combined LP heater and drain cooler to the boiler feed pumps. Three Weir turbine-driven four-stage centrifugal main feed pumps are fitted, each having an output of 220,000/300,000 lb/hour.

The forced lubrication system for each engine consists of three Drysdale pumps, two working and one standby, two Serck oil coolers, one working and one standby, one emergency gravity tank and a drain tank, also Philips magnetic suction filters and Autoklean "Flushflo" discharge strainers. The lubricating oil pump starters are so arranged that the third pump will start automatically in the event of failure of either of the working pumps. A Cockburn self-closing emergency valve is fitted in the ahead steam line to the turbines and is arranged to operate in the event of overspeeding of the turbines, failure of lubricating oil supply, or loss of vacuum.

One Weir triple effect evaporating and distilling plant having a capacity of 300 tons of distilled water per day is installed. An electrically-operated valve automatically diverts the distilled water to the bilge in the event of any trace of salt being present in the distilled water supplied from the evaporators. The insulation of the whole of the machinery and pipe work, except the turbine casings, has been carried out in CPOSITE amosite asbestos materials manufactured by Cape Insulation & Asbestos Products Ltd.

The main boiler installation consists of two Foster Wheeler controlled superheat boilers and one Foster Wheeler reheat boiler. Each boiler is arranged with a superheater, economiser, and steam air heater. The steam condition at the superheater outlet is 650 lb/sq in, 850 deg F. The reheat boiler, in addition to its normal evaporation of 50,000 lb/hr, is designed to reheat the exhaust steam from both port and starboard HP turbines to 850 deg F. One Howden-Johnson auxiliary boiler designed for a working pressure of 200 lb/sq in is installed for use in port when the main boilers are shut down.

The oil burning installation is by the Wallsend Slipway & Engineering Company. Three motor-driven Stothert & Pitt main oil fuel heating and pumping units designed to operate at a pressure of 425 lb/sq in are provided. Two units are capable of supplying all oil fuel for the maximum steaming conditions. A separate duplex auxiliary oil fuel unit and the usual lighting-up set is provided for use with the Howden-Johnson boiler.

The boilers work on the balanced draught principle, the air intake to the forced draught fans being taken from the boiler room and discharged to the furnaces via Weldex steam air heaters. The gas from the ID fans is discharged via Howden gas cleaners of the dry type situated in the funnel.

BY PRECISION TO PERFECTION

A COLOUR FILM has been produced by the English Electric Valve Co Ltd. The film called "By Precision to Perfection" commences with various applications of the company's products and then shows how components for all product divisions are manufactured in the machine shop. The film continues with the production, assembly and test of a magnetron, and the production of klystrons, large and small valves and television camera pick-up tubes are also shown in considerable detail. The dust-free environment necessary for camera tubes, and the precautions taken to ensure this in the specially designed building in which these tubes are manufactured, are emphasised.

Educational authorities, engineering associations and other interested bodies may borrow a copy of the film free of charge from the G.B. Film Library, 1 Aintree Road, Perivale, Greenford, Middlesex. The film runs for approximately 25 minutes and is made on 16mm film.

NEW PORT REGIME AT MORMUGAO

At the beginning of April, a new Government port administration came into effect at Mormugao Harbour in Goa, replacing the West of India Portuguese Guaranteed Railway Co Ltd which has operated the port since 1881. The company has not been nationalised in the ordinary sense of the term but has exercised its right under the original contract to terminate the agreement on two years' notice, which has now expired. The Portuguese Government has paid to the company, which is incorporated in England, the capital value of the concession. The general manager of the W.I.P. Railway, Col C. G. Blackford, OBE, remains in charge on behalf of the Government; in fact no considerable changes as a result of the new regime are expected this year, but in 1962 the whole organisation of the port is likely to be revised.



Lubricants for the main propelling machinery and auxiliary equipment have been supplied by the Mobil Oil Co Ltd

Oil Topics

ANGLE BAY OCEAN TERMINAL

THE MINISTER OF POWER, Mr. Richard Wood, officially opened the new BP ocean terminal at Angle Bay, on Milford Haven, which feeds the Llandarcy refinery with crude through the new 62-miles pipeline, which is also now in commission. The whole scheme, which cost overall about £6½ mn, comprises a jetty with two deep-water tanker berths at Popton Point; administrative offices at Popton Fort; a tank farm for intermediate storage of the crude oil at Kilpaison Farm 1½ miles away; and the pipeline to Llandarcy with one main pumping station beside the tanks at Kilpaison. The 1,100-ft long shore arm of the jetty comprises a 16-ft roadway and 32-ft wide open pipe track. Open construction was used to prevent interference with tidal flow, and to allow small craft to pass through. On the pipe track as well as the twin 26-in crude pipelines which lead from the berthing heads to the tank farm, there are also three 16-in bunker fuel pipes; a 12-in diesel oil line; a 12-in water line for firefighting; and a 10-in potable water line. The two berthing heads are each capable of berthing 100,000 dwt tankers in 54ft of water. The *British Queen*, 50,000 dwt, at present the largest vessel in the BP fleet, and the *British Ambassador*, 42,000 dwt, were alongside, dressed overall for the occasion. The consulting engineers recommended that the best design to resist the considerable berthing force of a fully laden 100,000-dwt tanker would be for each berth to consist of a pair of solid mass-concrete strong points, each 74ft by 38ft. This is known as a gravity structure. The trunkway or sea arm from which the berthing heads are extended is 1,220ft long and lies at right angles to the shore arm. The total length including the dolphins at either side is 2,300ft. The flow boom installation or hose handling gantry for each berth is carried by a piled platform between the two strong points.

Fendering System

The design of the jetty strong points is based on the impact force which they will have to withstand. Gravity fenders are mounted in sets of four on each strong point; a set of four will absorb the energy of a 65,000-dwt tanker moving at a speed of 1ft/sec or a 100,000-dwt tanker at 4/5ths ft/sec. Each weight hangs on two pairs of links arranged so that when it makes contact with the side of the vessel it is pushed backwards and upwards into a recess in the face of the jetty. The maximum horizontal travel is 4ft 10¾in, which gives a rise of 3ft 6in; this will enable the fenders to offer a yielding and resilient face to the side of the tanker under all weather conditions. The bunkering installation is capable of delivering up to 750 tons of fuel per hour to the berthing heads. Provision for heating bunker tanks is included by steam from an automatic boiler installation. A potable water tank of 250,000 gallons capacity is provided for gravity distribution to berthing heads for ships' water. The telecommunications system for this installation includes a single link teleprinter service to the BP refinery at Llandarcy and a VHF radio telephone system to provide communication between the marine superintendent and tankers approaching the terminal up to a distance of 30 miles out to sea.

Persian Gulf Oil for Japan

THE first shipment of oil from Japanese offshore wells in the Persian Gulf arrived on April 17 at Mizushima, the port for an oil refining centre near Osaka. The cargo of 22,987 kilolitres was delivered to the Mizushima

refinery of the Nippon Mining Company, which is due to begin operations in June with a daily capacity of 30,000 barrels. This new oilfield, in the neutral zone of Saudi Arabia and Kuwait, was developed by the Arabian Oil Company, a Japanese concern. Organised in 1957, the company is backed by the government. Its oil exploitation rights were granted on the condition that its share of the profits in marketing the oil be only 44 per cent. The company plans to build a refinery at Khafji, headquarters of its Persian Gulf operations. At present, the 14th well is being prospected, and an eventual output of 200,000 barrels a day is envisaged. The effects of the importation of oil from this new source are foreseen as considerable, despite the expanding oil market in Japan. Existing companies already have well-established supply lines, and could not be expected to view very favourably pressure, official or otherwise, that would cause these arrangements to be disturbed by having to refine oil produced by the Arabian Oil Company. In addition, most are affiliated in some way with foreign oil concerns, complicating the question of competition.

RECENT SHIP SALES

CARGO STEAMER *Federal Voyager* (ex-Fort Edmonton, 7,140 grt, 4,410 nrt, built Vancouver 1944 by Burrard Dry Dock Co Ltd) sold by Federal Commerce & Navigation Co Ltd, Montreal, to Japanese shipbreakers for \$200,000 with delivery Japan September.

Cargo steamer *Trito* (ex-Merchant, ex-Empire *Miranda*, 7,045 grt, 4,745 nrt, built Port Glasgow 1943 by Lithgows Ltd) sold by Margalante Cia. Naviera S.A., Panama, to Hong Kong shipbreakers for £74,000 with delivery Hong Kong May-June.

Tank steamer *Adellen* (ex-Empire *Nugget*, 9,501 grt, 5,939 nrt, built Haverton Hill-on-Tees 1942 by Furness Shipbuilding Co Ltd) sold by Torres Shipping Co Inc, Monrovia, to Japanese shipbreakers with delivery Japan.

Twin-screw motor vessel *Ulrika* (ex-Luossa, 5,667 grt, 2,856 nrt, built and engined Gothenburg 1923 by A/B Gotaverken) sold by Rederi A/B Erax, Gothenburg, to Japanese shipbreakers for what is reported to be equivalent to £21 5s per light displacement ton.

Tank steamer *Yuyo Maru* (10,086 grt, 7,403 nrt, built Aio 1945 by Harima Zosen-sho) sold by Morita Kisen K.K., Osaka, to Japanese shipbreakers. She arrived at Osaka on 31 October 1959 and has been idle at Sakai.

Steam trawler *Rehearo* (ex-John Burlingham, 266 grt, 195 nrt, built Beverley 1917 by Cook, Welton & Gemmell Ltd) sold by G. F. Sleight & Co Ltd, Grimsby, to Dutch shipbreakers.

Motor trawler *Havkvern* (498 grt, 201 nrt, built Brake 1955 by C. Lühring) sold by A/S Intraw (S. Bartz-Johannessen), Bergen, to Israeli buyers and renamed *Azcad*.

Motor vessel *Rondo* (4,550 dwt, 3,432 grt, 1,747 nrt, built Sunderland 1957 by Austin & Pickersgill Ltd) sold by Pelton S.S. Co Ltd, Newcastle, to Stephenson Clarke Ltd, London, for £282,500.

Cargo steamer *Kirstine Toft* (5,200 dwt, 2,779 grt, 1,462 nrt, built 1946 by Nakskov Skits. A/S. Nakskov) sold by D/S Jutlandia A/S (Jens Toft A/S), Copenhagen, to Brazilian buyers and renamed *Sao Paulo*.

Motor vessel *Fyrin* (915 dwt, 498 grt, 252 nrt, built Falkenberg 1955 by Falkenbergs Varv) sold by Rederi A/B Eysterasalt (Ernst Duner), Västervik, to Norwegian buyers and to be renamed *Skaansund*.

Motor tanker *Tankbjorn* (ex-Reliable No 1, ex-William Kipping, 180 dwt, 205 grt, 107 nrt, built Knottingley 1930 by J. Harker Ltd) sold by Rederibolaget Tankbjorn (Christensson & Co), Styro, to Greek buyers for £11,000 and renamed *Vernikos Sonia*. She was lengthened in 1953.

Cargo steamer *Arnold Bratt* (2,390 dwt, 1,473 grt, 763 nrt, built Landskrona 1925 by Nya Varvs A/B) sold by Angf. A/B

(Continued on page 404)

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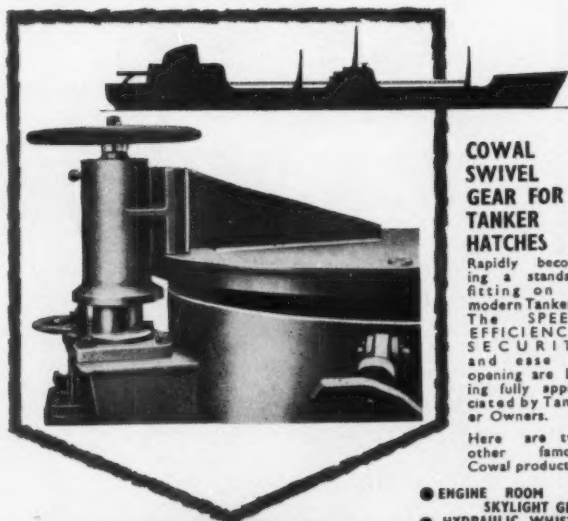
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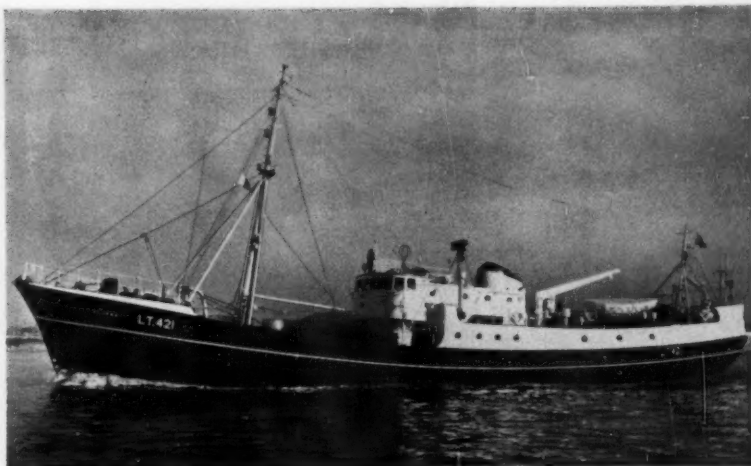
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Fisheries Research Trawler "Clione"

COCHRANE-BUILT VESSEL FOR
MINISTRY OF AGRICULTURE

Right: The "Clione" on trials. She has the
Cochrane transom stern



THE SELBY shipyard, Cochrane & Sons Ltd, has completed the research trawler *Clione* for the Ministry of Agriculture, Fisheries and Food. The vessel is intended for the services of the Ministry's Fisheries Laboratories at Lowestoft. The *Clione* is a smaller and more compact edition of the *Ernest Holt*, the trawler-type research ship delivered by Cochrane & Sons to the Ministry just over 12 years ago, and mentioned in THE SHIPPING WORLD last week.

The new vessel has to meet the draught restrictions at Lowestoft, and is 154ft in overall length and 135ft between perpendiculars, with a moulded breadth of 29ft and a moulded depth of 14½ft (flush deck). A feature of the ship is her transom stern, a design developed by the builders and tested in 1957 in the tanks of the National Physical Laboratory for propulsive efficiency and seaworthiness, and since used in the construction of a large number of trawlers built at Selby. Throughout, the design and planning of the ship have been done by the builders in association with Dr Cole, the director, and other members of the staff of the Lowestoft Laboratories.

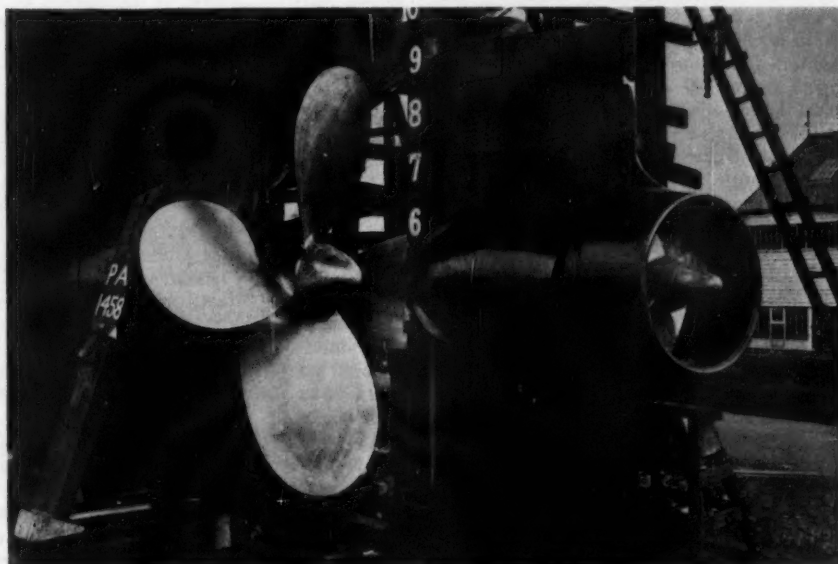
In her general appearance, *Clione* is similar to the conventional trawler, with whaleback forward, two-tier bridge and long boat deck. The main trawl winch and fishing gear have been arranged for starboard side work only, the port side space being reserved for hydrographical surveys and plankton research work. The forward deck is restricted to give a longer boat deck on which a further winch is mounted for light pelagic fishing over the stern. The boat deck also has a winch for hydrographic surveying, with space for two other winches for towed cable work.

A large proportion of the main deck inside the casing has been devoted to the laboratories, which contain all the equipment likely to be required for the research

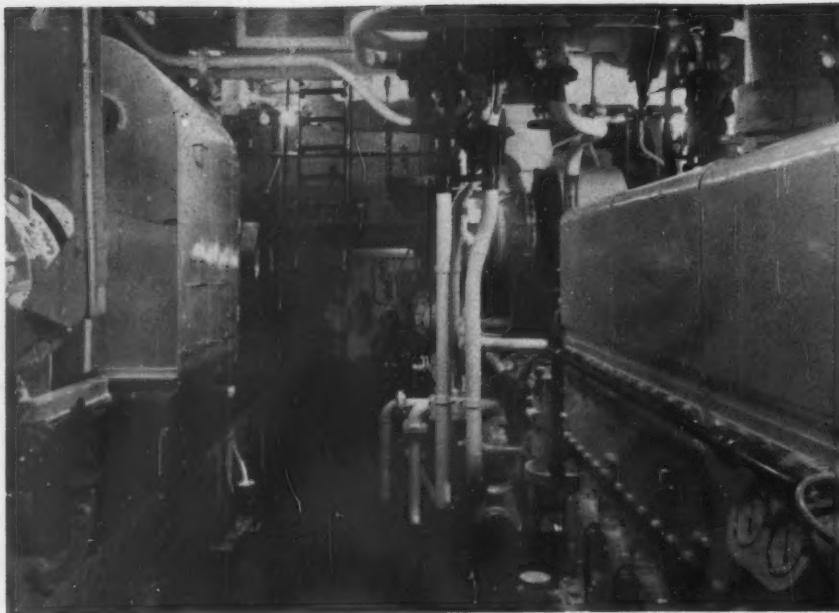
and survey work. With a view to the future, practically all the gear is interchangeable for use either in the ship or in the shore establishment, as desired. The shafting and the sternframe have been designed with the possibility in mind of installing a controllable-pitch propeller, and another possible future addition is a gyro compass.

Instead of the normal fishroom, the *Clione* has below the foredeck a 35-tons tank intended to carry up to 20 tons of live fish for transplantation experiments. A Mono pump has been installed to maintain the water supply or, when in port, to recirculate the contents, and to aerate the water as necessary. A special laboratory houses the electronic equipment; to it, all experimental sounders are led and from it the towed cable research will be carried out. One section of the compartment can be converted to a dark room to facilitate the development of photographs taken in the course of research operations.

The duties of the ship's company other than those of running her will include the operation of the various fishing methods required for research. At times they will work with the five scientists carried on board in checking and classifying the catch, at others hours of work will be entirely different. This has necessitated the provision of separate messrooms.



The propeller and rudder of the
"Clione" showing the Pleuger active
rudder in the centre of the rudder



In the engine room. On the right is the 212-kW trawl winch generator, with the main engine beyond. On the left is one of the 102-kW auxiliary units

The *Clione* will be used on all the grounds worked by United Kingdom near- and middle-water trawlers, including the Faroes, and she will make occasional cruises to Iceland and the Norwegian coast. Under the programme arranged for this year she will take part in herring trawling surveys and plaice tagging in the North Sea; in the marking of dogfish, rays and coalfish off the North and West of Scotland, and in special studies during the East Anglian season of the behaviour of herring shoals in the southern North Sea in relation to tides and water movements. During September she will visit the Irish Sea and the West of Scotland, and in 1962, and for some years thereafter, she is expected to spend several months each year working on the fishing grounds to the West of Scotland and Ireland exploited by the Fleetwood and Milford Haven vessels.

Pleuger Active Rudder

A Pleuger active rudder has been installed to give maximum manoeuvrability at slow speed ahead and astern, to turn the ship with the minimum movement ahead or astern, and to enable her to maintain an exact position irrespective of wind or current forces. Helm angles up to 40 deg either side can be obtained, the thrust being effective either ahead or astern. The control of the active rudder is on the bridge, and the control panel (constructed by Laurence Scott & Electromotors) provides push-button control for Ahead-Stop-Astern and variable speed control from zero to five knots. The submersible motor installed in the active rudder has a power output of 100 bhp and a maximum speed of 960 rpm, taking power at 50 cycles frequency and 380 volts AC. The propeller thrust is 2,750 lb.

With the aid of the Kelvin Hughes Fisherman's Asdic Mark I, a combined echo-ranging and echo-sounding device, the Ministry's scientists will be enabled to search a lane of water two miles in width (one mile on each side of the ship) for the presence of fish. A MS29 echo sounder works in conjunction with a Mark IV scale expander viewing unit. Also fitted is the SAL-58 marine log, a new type which is entirely automatic and operates on the pressure principle without using any rotating submerged parts. In addition to these items, Kelvin & Hughes supplies echo-sounding transducers of various

frequencies as part of a triple - frequency echo sounder for experimental use by the Ministry.

The *Clione* has been provided with Marconi Marine radiotelephone and direction-finding facilities, sound-reproducing equipment, and a comprehensive automatic intercommunication installation covering all the principal working positions. The telephone intercommunication system, by the Automatic Telephone & Electric Co Ltd, is based on three 10-way and ten 5-way units with transistorised booster amplifiers, the system being powered by a 9-volt battery.

Decca Radar Ltd has supplied a D.505 radar installation which has a peak power of 75 kW and a maximum range of 48 miles, and the ship also has a Decca Navigator and Marine Automatic Plotter.

As the ship has been designed for a wide range of service, from the Arctic to the Mediterranean, ventilation is both mechanical and natural to cope with the extremes of climate. Heating is electrical throughout by individually controlled convector heaters, and additional heating has been incorporated in the ventilation system to control condensation when the ship is in port and not fully manned.

The main engine is a 6-cylinder four-stroke Ruston & Hornsby diesel engine Mark 6ATCM, developing 1,000 hp and running at 500 rpm. This engine is equipped with pressure charger and air cooler; scavenge and pressure lubricating oil pumps; bilge pump, fresh water and sea water circulating pumps; and a clutched air compressor all mounted on and driven from the forward end. Power is transmitted through a Modern Wheel Drive reversing reduction gearbox (ratio ahead 2.65:1 and astern 2.9:1). The gearbox incorporates its own oil pump, filters and coolers. The propeller runs at 190 rpm. The intermediate shafting is fitted to run in Cooper roller bearings and also actuates a chain-driven shaft tachometer by Smiths Instruments Ltd, which records in both the engine room and wheelhouse. Operation of the engine is either manually in the engine room or direct from the wheelhouse by use of a set of combined engine-room telegraph and remote control equipment by Bloc-tube Controls Ltd.

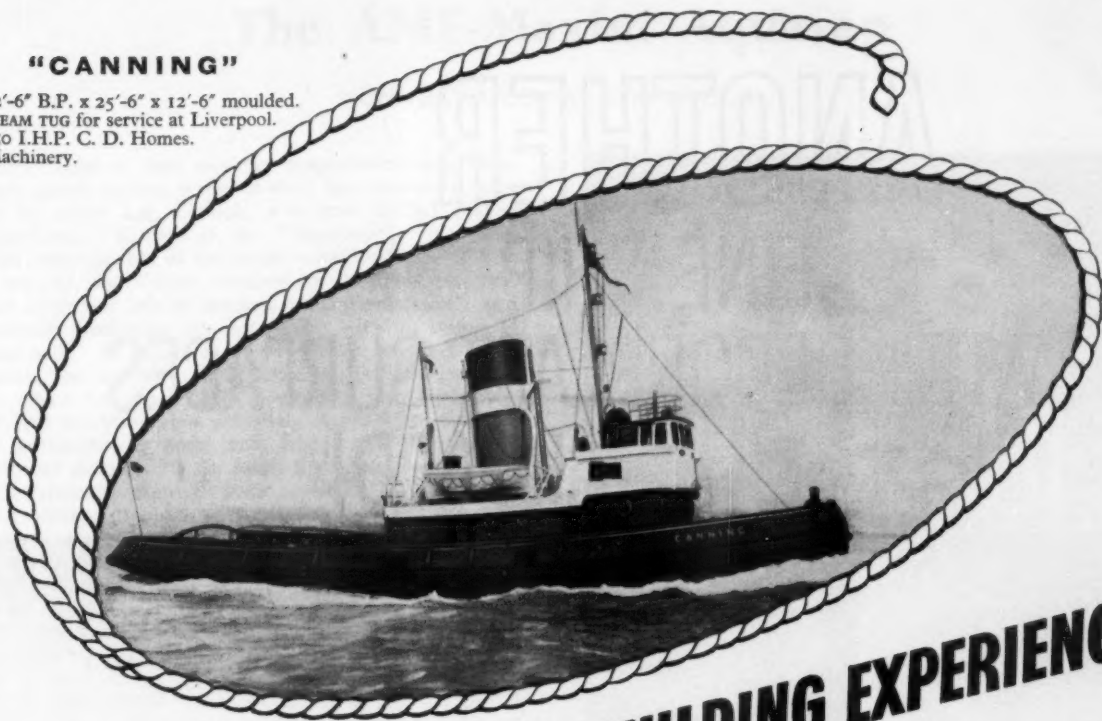
Elliott & Garrood Ltd, Beccles, supplied the various trawl winches. The main trawl winch is their Type V5MK1, and has two drums each capable of holding 1,200 fathoms of 2½ in circular wire rope. Other winches supplied are the stern pelagic fishing winch, hydrographic winch and derrick winch, the last two being specially designed for the ship. Two towed-electrode cable winches are to be supplied shortly. Electrically driven motors for these winches were provided by Laurence Scott & Electromotors.

The power for the main trawl winch motor is generated by a 212-kW generator operating on the Ward-Leonard

(Continued on page 399)

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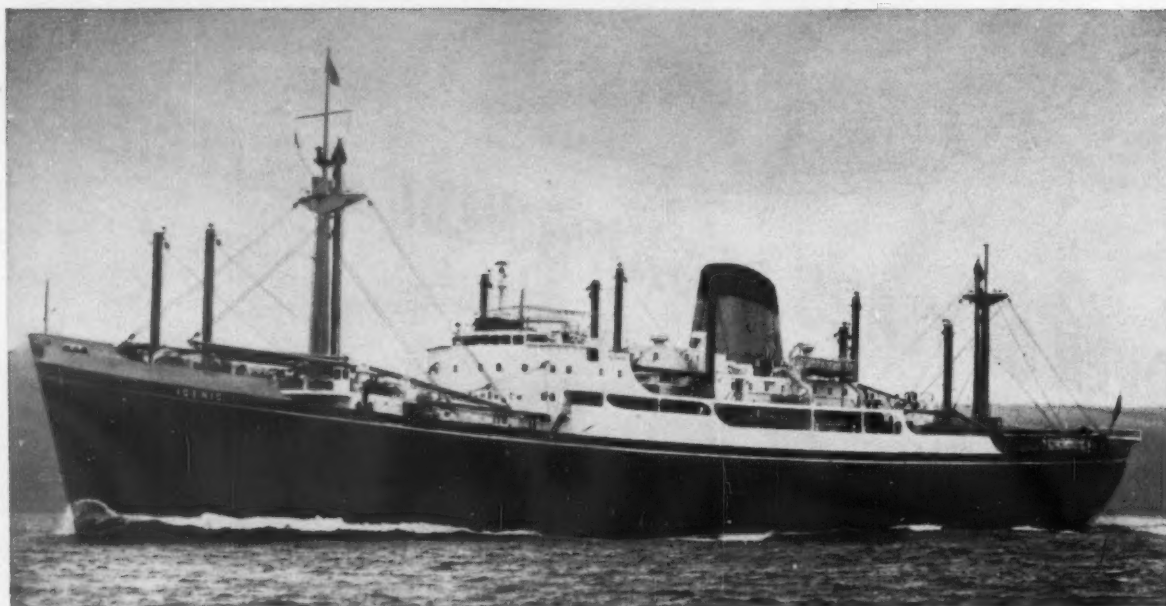
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The AMF-Maxim Aquavap

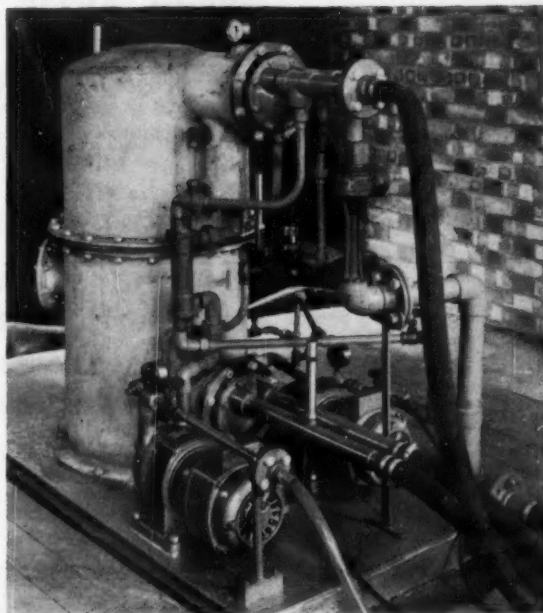
NEW HEAT RECOVERY EVAPORATOR

A NEW range of heat recovery evaporators using diesel engine jacket cooling water as their heat source is being sold by AMF Ltd, London, who now market Maxim evaporators. Known as the "Aquavap", these units, which are available in an output capacity range of 2 to 45 tons/day, have been designed to distill potable fresh water from raw salt or brackish water economically at a maximum production rate compatible with the source of waste heat. As this type of evaporator operates under vacuum, the raw water is boiled at a very low temperature, about 125 deg F, thus minimising scale formation. Not only are these units extremely compact but the shell and accompanying pipes and fittings can be made in reinforced plastic with the result that a strong, light and easily repairable plant is made possible.

An additional source of fresh water on board ship is always useful, not only for domestic purposes but also for boiler feed make-up. In the case of trawlers, which operate a long way from their home port, a small evaporator of the Aquavap type should prove invaluable as it does away with the need for carrying large amounts of fresh water in tanks, and may even give the vessel more time at sea. The plant is not expensive. For instance, the Aquavap Model VJ.20, which has a capacity of 1.3 to 3.8 tons of fresh water a day, is listed at £985 net complete with all fittings.

The operation of the Aquavap is simple and may be followed from the accompanying diagram. The hot circulating water is pumped through the lower heat exchanger and is returned to the circulating system, which can be either the main engine or one of the auxiliary diesel sets if of sufficient output. (The minimum engine output at full load to obtain maximum capacity is shown in the table.) This source of water is not affected in any way except that some of the heat is extracted. Raw water from an external source is pumped through the distiller and discharged, and the air and non-condensable gases are removed by a motor-driven vacuum pump, or a jet vacuum pump on the smaller capacity units.

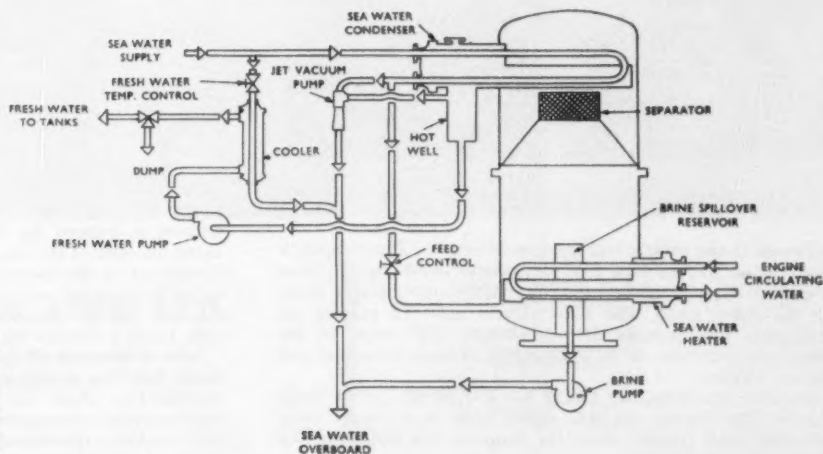
From the distiller condenser outlet the feed water supply to the Aquavap passes through a flow indicator and feed control valve into the evaporator shell. The excess feed water is drawn off from the shell by the waste raw water pump and discharged. The raw water boils in the



Model VJ-20 Aquavap on test. This unit will produce from 1.8 to 3.8 tons of fresh water per day

lower section of the evaporator shell. To ensure acceptable purity, the vapour produced by this boiling action passes through a specially designed separator, after which the purified water passes to the distiller condenser tubes where it is condensed, the fresh water collecting in the hotwell below the condenser. The fresh water is pumped from the hotwell to the storage tank.

Each Maxim Aquavap unit is furnished as a complete package with pumps, valves and fittings all mounted on a common foundation. Basic accessories consist of a raw water heater, distiller condenser, motor-driven vacuum pump (or jet vacuum pump for smaller models), waste



Flow diagram of the AMF-Maxim Aquavap heat recovery evaporator which uses diesel engine jacket cooling water as a heat source. The Aquavap is commonly fitted in parallel with the engine cooling system, and does not interfere in any way with the operation of the engine

raw water pump, fresh water pump, motor controls, fresh water cooler, single point salinity equipment operating a dump valve, flow indicator thermometers, compound pressure and water gauges, water meter and interconnecting piping. A raw water circulating pump can be furnished at extra price if required.

Aquavap units have a wide variety of applications in addition to their use on board ship—in fact, anywhere where there is an internal combustion engine or another source of hot water. The purity of the fresh water produced is of a high standard, less than 0.25 gr/gallon, and the units are virtually automatic in operation.

Capacities of Aquavap range

AMF Ltd is a member of the American Machine & Foundry Company International Division, and has taken

a stand at the Engineering & Marine Exhibition at Olympia (Stand No 8, Row Q, National Hall). The new Aquavap is being shown on this stand together with other of the company's wide range of products.

Model No	VJ-20	VP-150	VP-250
Capacity range:			
Imp. gal/day	290-830	2,080-6,230	3,460-10,380
Long tons/day	1.3-3.7	9.3-27.8	15.5-46.3
Metric tons/day	1.3-3.8	9.4-28.2	15.7-47.1
Heat required BTU/hr × 10 ³ for max capacity	364	2,800	4,550
Minimum engine hp at full load to obtain max capacity*	200	1,500	2,500
Dimensions (approx):			
Length	42 in (107 cm)	70 in (178 cm)	98 in (249 cm)
Width	25 in (64 cm)	73 in (185 cm)	81 in (206 cm)
Height	47 in (119 cm)	82 in (208 cm)	103 in (262 cm)
Weight (approx):			
lb (kg)	700 (1,540)	5,000 (11,030)	7,500 (16,540)
Electrical power required (approx) kW	0.75	3.0	3.75

* Based on heat rejection to the jacket cooling water of 35 BTU/min/hp

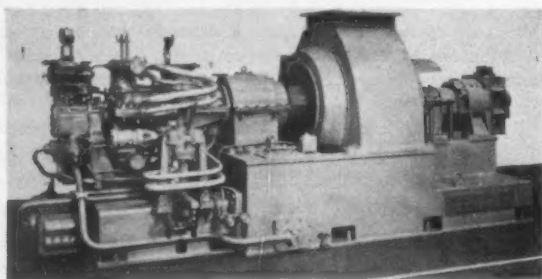
Engineering & Marine Exhibition — II

SOME OF THE EXHIBITS ON SHOW AT OLYMPIA

Associated Electrical Industries (Manchester) Ltd (Stand No 9, Row F, Grand Hall). This stand is occupied by the AEI Turbine Generator Division. There is a large display panel showing, in diagrammatic form, the wide contribution of AEI to the shipbuilding industry, including geared main propulsion machinery, engineroom auxiliary equipment, closed feed-water systems, cables, switchgear, radar equipment, electronic equipment, lighting and lighting fittings. A 700-kW back-pressure marine auxiliary turbo-generator is also being shown. This machine has been designed to operate at steam conditions of 550 lb/sq in and 890 deg F and to exhaust at 31 lb/sq in into a low-pressure steam power system.

The gas turbines, forming part of the combined steam-turbine/gas-turbine geared main propulsion machinery developed by AEI for use in the Royal Navy's general-purpose frigates and guided-missile destroyers, are also represented by a number of exhibits. One of the exhibits is a large cut-away drawing of the G6 gas turbine which has been developed for this machinery.

W. H. Allen, Sons & Co Ltd (Stand No 1, Row D, Grand Hall). One of the main exhibits on this stand is a 750-kW high-speed turbo-alternator, one of two similar units for installation in an oil tanker of 37,000 dwt for the P & O group fleet. The main electrical generating plant for six of these ships is of Allen manufacture. Four of the ships have already been



Allen 750-kW epicyclic-geared back-pressure steam turbine

delivered to the owners and are now in service. The company's latest sound film entitled *For Mechanical Advantage* is being shown at intervals during each day in the upper storey room on the Allen stand. The film features epicyclic gearing, its principles, the methods of manufacture and some of the interesting examples of its applications in both industrial and marine service.

Babcock & Wilcox Ltd (Stand No 4, Row G, Grand Hall). Among the exhibits on this stand there is a model of a saturated-water reactor which the company has developed for nuclear ship propulsion.

Bennis Thermoflash Ltd (Stand No 10, Outer Row, Gallery, National Hall). The Bennis Thermoflash exhibits take the form of an animated diagram illustrating the operation of their Thermoflash distillation units for the production of fresh water from saline water; together with a sectional model showing the design features which contribute to its reliability and ease of operation. The Thermoflash range of such plants varies from marine units with fresh water outputs from 5 tons to 150 tons per day, to the land-based units which are generally custom-built for outputs up to 5,000,000 gallons per day.

Clarke, Chapman & Co Ltd (Stand No 7, Row D, Grand Hall) have three new winches among their many exhibits this year. These comprise a fully-automatic constant tensioning mooring winch, a 3-speed AC cargo winch and a hydraulic cargo winch. A hydraulic motor unit for driving trawl winches is also on view. A fourth full-size cargo winch is of the self-contained Ward-Leonard type. This was shown at the last Exhibition and has been installed on a large number of ships for AC or DC supply. Other new exhibits include a full size 128-bhp reversing steam turbine, identical to those supplied for driving mooring winches on large tankers.

A Golar Vent turbo fan rapid gas-freeing unit, manufactured by Clarke, Chapman & Co Ltd and Davidson & Co Ltd for F. A. Hughes & Co Ltd, London (sole European licensees), is also being shown. This incorporates a Clarke Chapman uni-directional steam turbine. A working model of the "Algonquin" loader/unloader demonstrates this new method of handling bulk cargo.

Copes Regulators Ltd (Stand No 24, Outer Row, Gallery, Grand Hall) are exhibiting their B.I. marine feed water regulator, high and low water alarms, pressure relay equipment, a Junior type feed water regulator and their latest development of the Copes variable orifice desuperheater.

Hamworthy Engineering Co Ltd (Stand No 13, Row F, Grand Hall). Among the various exhibits on this stand there is a rotary burner of a type now being used increasingly in ships. This unit is fully automatic and is powered by a DC motor. A new marine pressure jet register which is unique in not relying upon a quarl for its operation is also being shown. Stabilisation is effected by the vortex caused by the radical swirler in the primary air section. Complete and rapid combustion is ensured by directing the secondary air into and along the cone of the oil spray. No vital part of the air director is exposed to the flame and thus no damage can occur due to back radiation, and no adjustment of the air register is required during operation. A shutter running on the carrier tube serves to isolate the register from the boiler windbox.

John I. Thornycroft & Co Ltd (Stand No 6, Row E, Grand Hall). Exhibits, models and a variety of coloured photographic enlargements show (i) the resources of their composite Southampton organisation covering as it does shipbuilding, ship repairing, marine and general engineering, and (ii) examples of the boat building facilities at their Hampton-on-Thames



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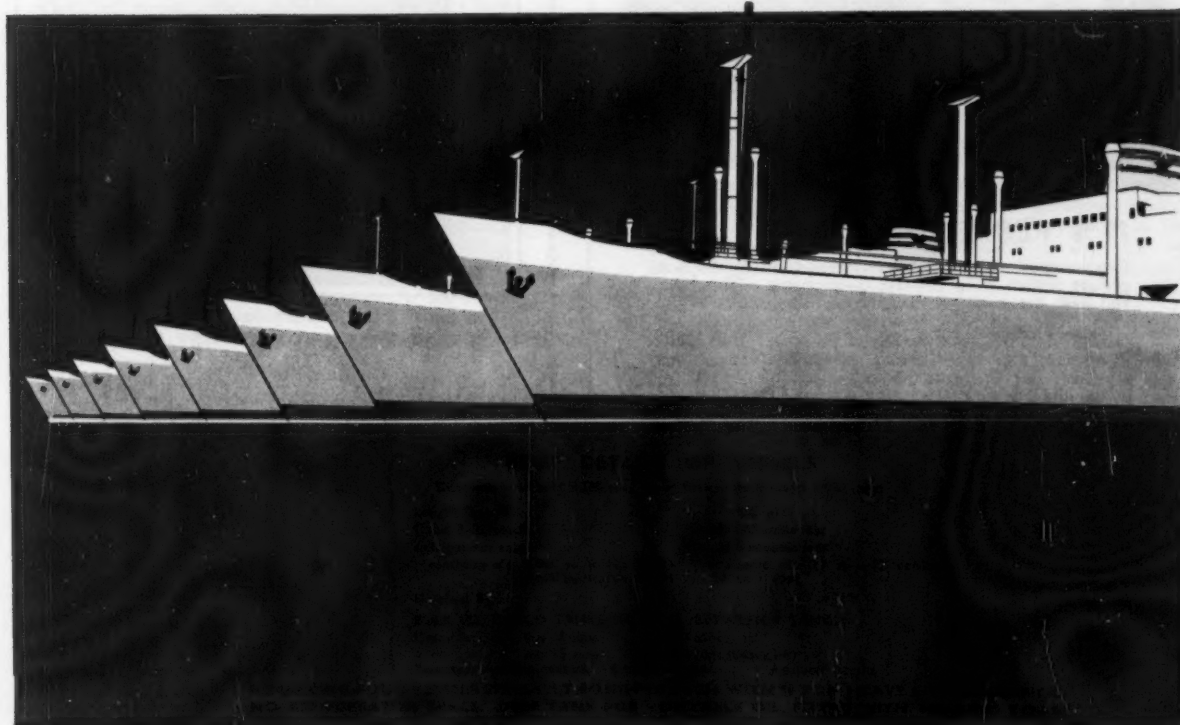
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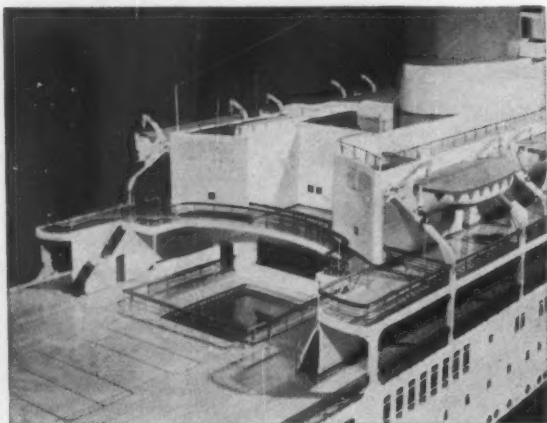
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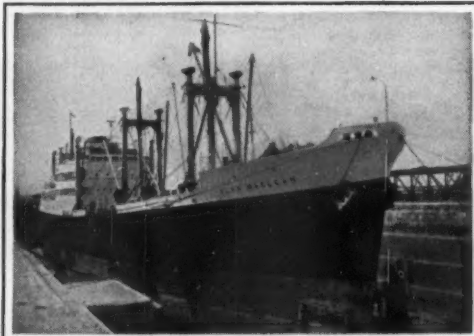
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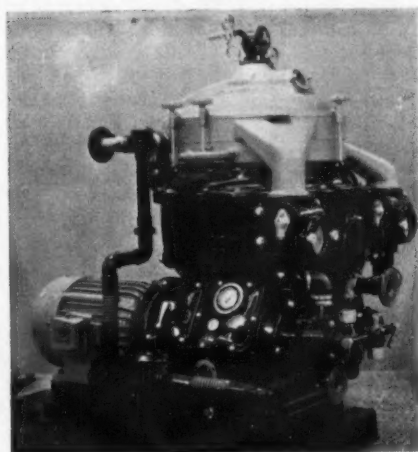
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boatyard. The "exhibition centrepiece" shows Thornycroft models of HMS *Latona*, the high-speed minelayer; the passenger vehicle ferry *Carisbrooke Castle*; the fire-fighting and general towage tug *Keverne*, and *P.L.I.*, a passenger launch for service on Lake Maracaibo; all Thornycroft-built vessels which have been fitted into an attractive scenic display designed and produced by the firm's model shop. The exhibits include an oil fuel burning installation on a 5-burner boiler an oil fuel burning installation on a 5-burner boiler front, which is available for demonstration; samples of turbine blading and an electrical switchboard.

Alfa-Laval Co Ltd (Stand No 5, Row F, Grand Hall). For the treatment of heavy fuel oil for diesel engines, gas turbines and free-piston machinery, there are the latest De Laval self-opening and nozzle type separators, also a De Laval purifier/clarifier system using VIB.1929C, and the larger capacity type HVB.210.00 equipment. Purifiers for the treatment of diesel oil and purifiers with stainless steel bowls for the treatment of lubricating oil for all diesel, turbine and free-piston engines, as well as special equipment for the treatment of turbine lubricating oil and insulating oil in power stations are also on view. De Laval plate type heat exchangers used for oil



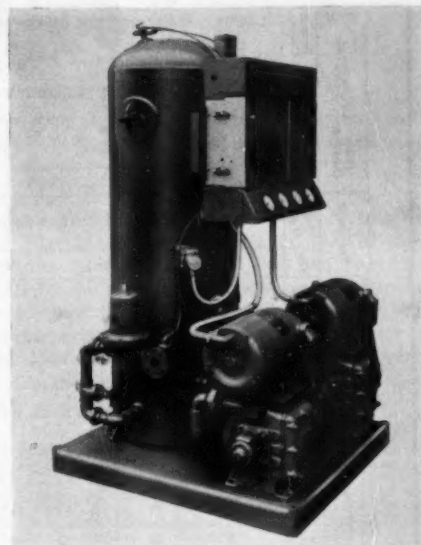
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purifiers

heating and cooling and in the marine, chemical and process industries, for heat transfer problems, and nozzle type centrifuges and machines of special design for the chemical and process industries, which are a feature of the De Laval range of equipment are shown on the stand.

Castrol Industrials Ltd (Stand No 11, Inner Row, Grand Hall Gallery). Castrol marine oils are featured on this stand, and prominent among these are the company's range of turbine lubricants, including the "Nucleol" series of radiation-resistant lubricants for marine and land-based applications. Exhibited for the first time is the latest development in two-line centralised lubrication systems suitable for either oil or grease. This is known as the Universal Centralised Lubrication System and is based on new positive dispensing units. It can be seen in operation on the stand.

Shell-Mex & BP Ltd (Stands Nos 10, Row F, and 12, Row K, Grand Hall). The evolution of the internal combustion engine is the theme of the display on the stand of Shell marine and industrial lubricants. This theme marks the centenary of the conception by Otto in 1861 of the four-stroke cycle principle and to show the evolution of the engine through the ensuing 100 years. It is introduced with a portrait of the Dutchman Huygens who, in the 17th century, built what was probably the first internal combustion engine and which was of interest because it was actuated by the explosion of a charge of powder. The theme is developed in a mural with two sets of panels showing portraits of men who discovered and successfully applied the principles which are the basis of the modern engine, and some of the applications of modern I/C engines in industry.

Megator Pumps & Compressors Ltd (Stand No 9, Row C, Grand Hall), are showing for the first time a new range of Auto-Unit pressure sets for marine water supply systems.



Megator
Auto-Unit
pressure
set

These sets provide fully-automatic operation and also reduce considerably the size and weight of pressure tanks necessary for any given conditions. Megator Auto-Unit pressure sets meet the requirements of Lloyd's Register and of the Ministry of Transport for sanitary and fresh water services, and are made in an extensive range of standard sizes, with pump capacities up to 25 tons/hour. The pumps operate with a standard cut-out pressure of 80 lb/sq in, a pressure regulator or reducing valve keeping the pressure in the system at the required level. The initial setting of this regulator at the time of installation, or later alteration during service, is the only adjustment required.

Each set is fitted with two pumps, one of which is a standby, and either of them can be brought into use, on automatic or hand control, by operation of a rotary selector switch. Megator suction and delivery isolating non-return valves, which have been recently developed for this service, make the water connections automatically when changing from one pump to another.

FISHERIES RESEARCH TRAWLER "CLIONE"

(Continued from page 396)

system. This generator can also operate at constant voltage to supply power for general ship's use and/or driving the Pleuger rudder AC/DC motor-alternator. The prime mover for this generator is a 6-cylinder pressure-charged Ruston & Hornsby engine developing 340 bhp at 650 rpm.

The main DC electric power is produced by two Ruston Paxman engines developing 153 bhp at 1,200 rpm. These engines are of the vee type and are mounted on resilient mountings and enclosed in acoustic hoods. This is done to damp down vibration and noise so as to assist work in the laboratories. These engines drive two Laurence Scott generators giving 102 kW at 240 volts DC. AC power is produced by two AC/DC alternators, one of 31.25 kVA used solely for the laboratories, and one of 120 kVA which serves to supply power for the Pleuger rudder.

Additional auxiliary power is provided by a Ruston & Hornsby air-cooled engine driving a 20-kW DC generator and a clutched Worthington-Simpson air-cooled air compressor. A Whittle belt drive is taken from the forward end of this set to an Albany standby lubricating oil pump which is capable of taking over from either the main engine or gearbox pumps in an emergency.

COUNTRY OF BUILD

[illegible]

SHIPBUILDING ANALYSIS

**Great Britain & Northern
Ireland**

Lloyd's Register Shipbuilding Returns

MERCHANT SHIPS UNDER CONSTRUCTION AT THE END OF MARCH 1961

STATISTICS compiled by Lloyd's Register of Shipping show that merchant ships of 100 grt and over under construction in Great Britain and Northern Ireland at the end of March totalled 249 ships of 1,610,647 grt, a decrease of 83,541 tons compared with the previous quarter and the lowest figure since December 1945. The highest postwar figure was 2,345,408 tons at the end of 1957. The total comprises 88 ships of 590,162 tons fitting out afloat, and 161 of 1,020,485 tons still to be launched. During the first quarter of 1961, 58 ships of 295,823 tons were begun; 65 of 343,222 tons were launched; and 67 of 381,162 tons were completed in Great Britain and Northern Ireland. Tonnage for which plans have been approved or material ordered, but which have not been started, held fairly steady throughout last year, but the present figure of 816,080 tons is 127,379 tons less than in December last and is the lowest since 1946. Tonnage under construction in Great Britain and Northern Ireland for registration abroad at the end of March amounted to 39 ships of 354,169 tons and represents 22.0 per cent of the total tonnage being built in this country. Although these figures compare very poorly with the peak reached in September 1950, they are an improvement on last quarter's 312,823 tons—18.5 per cent. Tonnage being built abroad for Great Britain and Northern Ireland has fallen during the quarter from 566,403 tons to 457,080 tons. Tankers total 41 ships of 721,921 grt which is

84,606 tons less than the previous quarter, and represents 44.8 per cent of the total tonnage under construction.

Tonnage Building Abroad

Ships under construction at the end of March totalled 1,223 ships of 7,115,214 grt; an increase of 142,320 tons since the previous quarter. As was then the case, no returns are available for China, East Germany and Russia. Apart from one minor fluctuation in 1959, this is the first increase in tonnage under construction abroad since a peak figure of 7,906,658 tons was reached in September 1958. Totals for the leading countries abroad, as compared with the previous quarter are:

	Tons		Tons
Japan ...	1,025,090 (+128,875)	Poland ...	284,566 (+28,467)
Germany (W) ...	837,026 (-60,697)	Yugoslavia ...	262,937 (+40,324)
Sweden ...	830,056 (+21,115)	Denmark ...	256,040 (-2,702)
France ...	609,278 (-46,548)	Belgium ...	126,530 (-27,489)
Italy ...	598,166 (-52,497)	Canada ...	94,130 (+26,610)
Netherlands ...	597,347 (-19,572)	Finland ...	83,369 (+18,223)
U.S.A. ...	505,235 (-19,034)	Australia ...	59,438 (-)
Norway ...	443,818 (+86,140)	India ...	53,525 (-6,536)
Spain ...	296,014 (+16,655)		

Japan has regained the lead abroad which she had held for two years until the previous quarter. Germany is at the lowest level since September 1957, and is being closely challenged for second place by Sweden. With a substantial increase, Norway has reached a record level, and figures for Poland and Yugoslavia are also the highest ever recorded for those countries.

Tonnage intended for registration elsewhere than in the country of build shows a decrease of 143,979 tons to a present figure of 2,978,372 tons (41.9 per cent of the total under construction abroad), including 686,536 tons for Norway, 489,952 tons for Liberia, and 457,080 tons for Great Britain and Northern Ireland.

Merchant Ships Under Construction in the World

(Excluding ships of less than 100 tons gross)

Country of Build	Steamships		Motorships		Total		Percentage of World Tonnage
	No.	Tons Gross	No.	Tons Gross	No.	Tons Gross	
British Commonwealth:							
Great Britain and Northern Ireland ...	41	751,996	208	858,651	249	1,610,647	18.46
Australia ...	2	35,038	9	24,400	11	59,438	
Canada:							
Coast ...	3	51,500	11	26,680	17	94,130	2.48
Great Lakes ...	—	—	3	15,950	3	15,950	
India ...	—	—	10	53,525	10	53,525	
Other Commonwealth Countries:							
Argentina ...	1	110	5	23,000	6	23,110	0.26
Belgium ...	2	55,261	14	71,269	16	126,530	1.45
Brazil ...	1	7,500	9	25,650	10	33,150	0.38
China (Nationalist) ...	—	—	2	4,800	2	4,800	0.05
Denmark ...	5	117,600	29	138,440	34	256,040	2.93
Egypt (U.A.R.) ...	—	—	1	1,970	1	1,970	0.02
Finland ...	—	—	28	83,369	28	83,369	0.96
France ...	8	265,955	67	343,373	75	609,278	6.98
Germany (West) ...	12	290,140	168	546,886	180	837,026	9.59
Hungary ...	—	—	6	17,503	6	17,503	0.20
Indonesia ...	—	—	2	2,600	2	2,600	0.03
Ireland ...	—	—	13	3,286	13	3,286	0.04
Irish Republic ...	—	—	3	15,920	3	15,920	0.18
Israel ...	—	—	1	200	1	200	0.00
Italy ...	14	348,370	45	249,796	59	598,166	6.86
Japan ...	9	213,632	130	811,458	139	1,025,090	11.75
Mexico ...	—	—	1	500	1	500	0.01
Netherlands ...	7	195,632	122	401,715	129	597,347	6.85
Norway ...	1	18,500	79	425,318	80	443,818	5.09
Philippines ...	—	—	1	1,750	1	1,750	0.02
Poland ...	6	46,002	62	238,564	68	284,566	3.26
Portugal ...	3	24,560	9	7,990	13	32,550	0.38
Spain ...	5	58,737	112	237,277	117	296,014	3.39
Sweden ...	10	289,550	64	540,506	74	830,056	9.51
Turkey ...	3	1,550	10	4,242	13	5,792	0.07
U.S. of America:							
Atlantic Coast ...	19	332,170	10	5,195	29	337,365	3.77
Gulf Ports ...	2	22,000	12	3,445	14	25,445	0.28
Pacific Coast ...	12	139,000	1	120	13	139,120	1.57
Great Lakes ...	—	—	4	3,305	4	3,305	0.04
Yugoslavia ...	2	40,000	40	222,937	42	262,937	3.01
World Total*	168	3,304,803	1,304	5,421,058	1,472	8,725,861	100.00

* Returns are not available for China, East Germany and Russia.

Oil Tankers Under Construction

Country of Build	Steam		Motor		Total	
	No.	Tons Gross	No.	Tons Gross	No.	Tons Gross
Great Britain and Northern Ireland ...	21	578,730	20	143,191	41	721,921
Other Commonwealth Countries:						
Argentina ...	1	21,000	1	4,000	2	25,000
Belgium ...	—	—	1	1,500	1	1,500
China (Nationalist) ...	1	31,200	—	—	1	31,200
Denmark ...	4	108,600	4	66,925	8	175,525
Finland ...	—	—	2	2,099	2	2,099
France ...	6	192,405	5	78,585	11	270,990
Germany (West) ...	7	232,680	14	10,034	21	242,714
Greece ...	—	—	2	16,478	2	16,478
Italy ...	8	215,000	4	23,100	12	238,100
Japan ...	6	167,432	24	227,945	30	395,377
Netherlands ...	5	163,000	4	54,198	9	217,198
Norway ...	1	18,500	16	218,039	17	236,539
Poland ...	—	—	6	42,428	6	42,428
Portugal ...	2	23,560	—	—	2	23,560
Spain ...	2	44,000	9	79,595	11	123,595
Sweden ...	9	285,550	14	262,849	23	548,399
Turkey ...	—	—	2	880	2	880
U.S. of America ...	5	184,550	—	—	5	184,550
Yugoslavia ...	2	40,000	3	4,550	5	44,550
World Total	80	2,306,207	133	1,241,196	213	3,547,403

Ships Begun, Launched and Completed

Country of Build	Begun		Launched		Completed	
	No.	Tons Gross	No.	Tons Gross	No.	Tons Gross
Great Britain and Northern Ireland ...	58	296,823	65	343,222	67	381,162
Other British Commonwealth Countries:						
Argentina ...	11	28,615	7	2,060	4	7,012
Belgium ...	2	2,610	—	—	—	—
Brazil ...	1	2,780	5	16,225	2	32,058
Denmark ...	2	6,000	2	6,150	—	—
Finland ...	13	54,270	10	40,595	14	55,166
France ...	13	31,575	5	18,842	6	14,000
Germany (West) ...	20	119,719	12	70,871	16	170,328
Hungary ...	70	236,154	54	222,161	54	301,675
Indonesia ...	2	2,500	—	—	—	—
Israel ...	2	720	1	434	2	682
Italy ...	—	—	1	200	—	—
Japan ...	4	35,000	11	58,569	12	96,254
Netherlands ...	116	469,739	115	408,721	113	336,884
Norway ...	31	63,874	51	154,462	30	88,069
Poland ...	38	143,909	24	121,560	17	60,651
Portugal ...	15	48,607	11	47,469	8	20,024
Spain ...	3	2,100	—	—	4	3,118
Sweden ...	22	46,181	15	49,682	12	29,670
Switzerland ...	19	223,199	20	174,960	23	204,540
Turkey ...	—	—	4	1,030	1	250
U.S. of America ...	20	111,135	11	30,710	15	128,694
Yugoslavia ...	17	73,170	7	69,750	5	42,570
World Totals	479	1,997,780	431	1,837,673	405	1,972,807

NEW CONTRACTS

Shipowners	No. of Ships	Type	Tons d.w. (gross)	Dimensions (ft.) L.b.p.(o.a.) × B × D.(dft.)	Delivery	Speed (knots)	Propelling Machinery	Total h.p.	Engine Builders	Shipbuilders
Yards in Great Britain and Northern Ireland										
Pool Shipping Co	1	Bulk carrier	16,100	—	1962	14	Diesel	—	—	Austin & Pickersgill
Wm. France Fenwick & Co	1	Tug	—	100	1962	—	Diesel	1,000	Ruston & Hornsby	Richard Dunston
Lawson Batey Tugs	1	Tug	—	100	1962	—	Diesel	1,000	Deutz	Richard Dunston
—	1	Tanker	2,000	—	—	—	Diesel	—	—	Blyth Dry Docks
—	1	Bulk carrier	20,000	—	—	—	Diesel	—	—	Blyth Dry Docks
Trader Nav. Co	1	Bulk carrier	15,800	—	—	—	Doxford diesel	—	N.E. Marine	Austin & Pickersgill
Birkenhead Corporation	1	Pass. ferry	(460)	150 × — × (7)	—	12.5	Tw.-scr. diesel	—	—	Cammell Laird
Overseas Yards										
Swedish Gulf Line A/B	1	Cargo	7,000	—	1962	16	6-cyl G.V. diesel	5,600	Shipbuilders	Uddevalvarvet
Robert Bornhofen, Hamburg	1	Cargo	1,140	—	June 1961	—	Diesel	—	—	J. J. Sietas
German owner	1	Bulk carrier	30,500	—	1962	14.5	Diesel	9,000	M.A.N.	Lubecker Flender Werke
Angbats A/B Firm, Gothenburg	(533)	Bulk carrier	15,650	—	1962	—	—	—	—	Lindholms Varv
Polish Ocean Lines	2	Cargo	12,500	—	1962/3	—	Diesel	—	—	Odense S.B. Co

LAUNCHES

Date	Shipowners	Ship's Name and/or Yard No.	Type	Tons d.w. (gross)	Dimensions (ft.) L.b.p.(o.a.) × B × D.(dft.)	Speed (knots)	Propelling Machinery	Total h.p.	Engine Builders	Shipbuilders
Yards in Great Britain and Northern Ireland										
Apr. 5	Admiralty	Agnes (135)	Tug	(40)	—	—	Diesel	—	Lister Blackstone	P. K. Harris & Sons
Apr. 5	Admiralty	Audrey (136)	Tug	(40)	—	—	Diesel	—	Lister Blackstone	P. K. Harris & Sons
Apr. 5	British Transport Commission	Calatria (129)	Hopper dredger	(750)	—	—	Diesel	—	British Polar	P. K. Harris & Sons
Apr. 13	British Transport Commission	Camber Queen	Pass./veh. ferry	(700)	145 × 30 × 11	10.5	Two diesels	640	Crossley Bros Mirrlees Bickerton & Day	Philip & Son
Apr. 15	H. L. Taylor, Grimsby	Hondo (526)	Trawler	(210)	115 × 25 × 12.25	—	6 cyl diesel	700	Burmeister & Wain	Goole S.B. Co
Apr. 17	Grangemouth & Forth Towing Co	Zetland (528)	Tug	(100)	75 × 23.5 × 12.25	—	Diesel	840	Mirrlees Bickerton & Day	Grangemouth Dockyard
Apr. 18	R. Irvin & Sons, Aberdeen	Ben Gairn	Trawler	(370)	135 × 26.5 × 13.25	—	7-cyl diesel	854	Mirrlees Bickerton & Day	John Lewis & Sons
Mar. 27	Alexandria Towing Co	Gower (929)	Tug	(165)	—	—	Diesel	—	—	W. J. Yarwood & Sons
Overseas Yards										
Mar. —	Ake Hogberg	Marion (374)	Cargo	5,900	—	16.25	Diesel	4,650	Fiat	Finnboda Varf
Mar. 3	Osaka Shosen Kaisha	Hague Maru (921)	Cargo	12,100 (9,350)	475.75 × 63.67 × 41.1 (30.1)	17	Sulzer diesel	12,000	Shipbuilders	Mitsubishi H.I. Reorg.
Mar. 14	Zim Israel Nav. Co	Teveria (910)	Cargo	10,460 (8,237)	435.95 × 62 × 36(25.95)	15.25	M.A.N. diesel	5,400	Shipbuilders	Bremer Vulkan
Mar. 15	Oceanfaring Co S.A. (N. J. Pateras & Sons)	Argonafitis (769)	Bulk carrier	20,000 (14,000)	545 × 74.67 × 44(30)	16.25	B & W diesel	9,100	Mitsui S.B. & E. Co	Nippon Steel & Tube Co
Mar. 15	Daio Kisen K.K.	Daitetsu Maru (162)	Cargo	(1,950)	—	—	Diesel	—	—	Nagoya S.B. & E. Co
Mar. 16	Allseas Shipping Co, Israel	Nurith (1346)	Cargo	13,700	437.5(462.5) × 61 × 40.5(27)	14.25	Sulzer diesel	5,800	Shipbuilders	Forges et Ch. de la Mediterranee
Mar. 17	Cie. de Nav. Mixta	Blida	Cargo	3,400	281.5(304.5) × 44.58 × 17.33(23.25)	—	6-cyl Sulzer diesel	4,100	Shipbuilders	Forges et Ch. de la Mediterranee
Mar. 20	Daido Kaiun K.K.	Miyajima Maru (153)	Bulk carrier	(13,600)	—	—	Diesel	—	Shipbuilders	Mitsubishi S.B. & Co, Hiroshima
Mar. 21	Kolner Reederei	Anneliese (331)	Bulk carrier	28,700	597.1 × 79.75 × (30.5)	15	6-cyl diesel	9,000	M.A.N.	Rhein Stahl
Mar. 26	Jadranska Slobodna Plovidba	Jelsa (113)	Cargo	(2,100)	—	—	Diesel	—	—	Nordseewerke Brodogradiliste Jogo Lozovina-Mosor, Trogir
Mar. 28	Shin Maruzen Tanker Co	Honstan Maru (3908)	Chem. tanker	7,400 (4,900)	—	—	B & W diesel	—	Shipbuilders	Hitachi S.B. & E. Co, Sakurajima
Mar. 31	Tonen Tanker K.K.	Tonen Maru (655)	Tanker	47,600 (29,000)	712 × 100 × 50.9 (37.25)	16.5	B & W diesel	18,900	Shipbuilders	Mitsui S.B. & E. Co, Tamano
Apr. 6	Cie. Nantaise des Chargeurs de L'Ouest	Pentellina (144)	Cargo	16,350 (10,900)	507.95 × 68.95 × 43.67 (29)	14.25	B & W diesel	7,500	Schneider	At. et Ch. de la Seine-Maritime
Apr. 6	Olav Ringdal, Oslo	Ringulv (1105)	Bulk carrier	18,700 (10,650)	470 × 65.67 × 40.9 (29.5)	14.75	M.A.N. diesel	6,300	Shipbuilders	Kieler Howaldtswerke

TRIAL TRIPS

Date	Shipowners	Ship's Name and/or Yard No.	Type	Tons d.w. (gross)	Dimensions (ft.) L.b.p.(o.a.) × B × D.(dft.)	Speed (knot.)	Propelling Machinery	Total h.p.	Engine Builders	Shipbuilders
Yards in Great Britain and Northern Ireland										
Apr. —	Postmaster General	Alert (801)	Cable ship	4,000	375(418) × 54.5 × 33.25	15	Diesel-electric	4,400	—	Fairfield S.B. Co
Apr. —	Donaldson Line	Letitia (890)	Cargo	6,500 (4,900)	385 × 58 × 35.33(23.5)	16	Sulzer diesel	5,400	N.E. Marine	Hall Russell & Co
Apr. 20	S. J. Jeffery	Fairwood II (248)	Yacht	(150)	—	—	Tw.-scr. diesel	—	Rolls Royce	Clelands Successors
Overseas Yards										
Mar. —	Cia. Naviera Vascongada S.A.	Martin Zubizarreta (154)	Cargo	13,000 (8,100)	473.58 × 61.42	—	6 cyl B & W diesel	4,900	Soc. Espanola de Const. Nav.	Euskalduna
Mar. —	U.S.S.R.	Ingur (1164)	Refrig. cargo	7,500 (4,490)	(395.5) × 53.2 × (23.25)	18.5	8 cyl M.A.N. diesel	7,250	Shipbuilders	Kieler Howaldtswerke
Mar. 14	Ore Carriers of Liberia	Tyne Ore (540)	Ore carrier	20,360 (8,210)	516.75(546) × 74.1 × 40.2	—	7-cyl B & W diesel	8,750	Fr. Krupp	Schlieker Werft
Mar. 23	Empresa Maritima del Estado	Valdivia (369 B)	Cargo	3,500	277.95(304.67) × 44.58 × 25.58(22.2)	14	Two 6-cyl Plastick diesels	3,840	S.E.M.T.	Forges et Ch. de la Mediterranee
Apr. —	Anders Smith, Stockholm	Birgit Ragne (222)	Cargo	5,900 (3,000)	344.5(74) × 50.5 × (23.5)	14.5	7-cyl diesel	5,900	Burmeister & Wain	Ekensbergs Varv
Apr. —	Medomsley Steam Shipping Co	Holsworth Beacon (650)	Cargo	12,850 (7,000)	(500) × 64.5 × (26.5)	15	6 cyl diesel	7,600	Gebr. Stork	Werf de Noord
Apr. —	Fearnley & Eger, Oslo	Fernlake (757)	Cargo	10,070 (6,000)	(510) × 68 × 41(28.1)	19.25	9 cyl diesel	11,300	Shipbuilders	Gotaverken

MARITIME NEWS IN BRIEF

SIR COLIN ANDERSON, the retiring chairman of the International Chamber of Shipping, has been re-elected for a further period of two years. Mr J. Chr. Aschengreen, of Denmark, has been re-elected one of the joint vice-chairmen for a further year, while Mr R. E. Kumana, of India, is to fill the other vacancy caused by the retirement of Mr Richard Bertram, of Germany, who has completed his two-year term of office.

MR GEORGE PARKER, Director of Marine at Hong Kong, is to retire after more than 24 years' service with the Hong Kong Government. He will be succeeded by Mr J. P. Hewitt. Mr Parker was appointed Director of Marine in 1957. In addition, he is a Marine Magistrate, Emigration Officer and Registrar of Shipping. He is also chairman of the Port Committee, Port Executive Committee and the Mercantile Marine Assistance Fund Committee.

THE FOLLOWING APPOINTMENTS have been made at the European head office of Canadian Pacific in London: Mr K. W. Muir, regional freight manager; Mr S. Byars, regional freight agent; Mr L. W. Botting, assistant regional freight agent; and Mr D. R. Newberry, assistant regional freight agent.

THE DEATH has occurred of Mr W. L. Bagshaw, formerly secretary of the Union-Castle Line. Mr Bagshaw joined the company in 1924, and after being engaged for a short time on passenger work was then appointed to the secretarial department, where he worked for the remainder of his time with the company.

MR W. H. FORSTER, a former director of the Caledon Shipbuilding & Engineering Co Ltd, has died in Dundee.

MR H. D. REYNOLDS has been appointed traffic director of the International Air Transport Association (IATA).

THE COUNCIL of the Inter-Governmental Maritime Consultative Organisation (IMCO) has re-elected M. Jean Roullier of France as its chairman for the two-years period until the third Assembly. M. Roullier, who was the Council's chairman in 1959-61, is director of a department in the French Ministry of Merchant Shipping. Dr Haruki Mori of Japan was elected vice-chairman.

MR H. E. COX has been appointed director of manufacture, Associated Electrical Industries (Rugby) Ltd, following the recent retirement of Mr H. L. Satchell.

LIEUT.-COMMANDER W. L. G. DUTTON has been appointed Chief Inspector of Life-boats of the Royal National Life-boat Institution. He succeeds the late Commander S. W. F. Bennetts.

MR G. C. RICHARDSON has been appointed export manager, Overseas Division, the British Oxygen Co Ltd. This is a new appointment and has been made to strengthen the company's extensive overseas sales activities.

CAPTAIN C. W. G. STOOK has been appointed commodore of the BP Tanker Co Ltd. He succeeds Capt R. G. Mott who is retiring after more than 37 years' service with the company. Capt Stook joined the company in 1918 as a navigating apprentice and has spent his entire sea going career with the BP Tanker Company. He obtained his first command in June 1936 and was appointed a senior post master in September 1957. He is to command the company's flagship "British Queen".



THE BOARD of the Port of London Authority has re-appointed Viscount Simon chairman of the Authority and Lord Cottesloe vice-chairman.

THE NORTH EASTERN MARINE ENGINEERING CO LTD, Wallsend, has received an order for the machinery installation for the 16,100-dwt bulk carrier to be built by Austin & Pickersgill Ltd for the Pool Shipping Co Ltd. The main engine will be a 5-cylinder turbo-charged NEM-Gotaverken engine developing 6,300 bhp at 112 rpm.

NAPIER "Deltic" diesel engines worth over £1,000,000 have been ordered by the Royal Australian Navy as replacement power plants for six of their "Ton" class minesweepers. The ships are to be re-engined as part of a modernisation programme to be carried out in British shipyards, starting mid-1961.

A PRIZE of \$50 has been awarded to each of six members of United States Lines' European Organisation for providing a class name for the first of 11 new cargo ships ordered in their fleet replacement programme. In a worldwide contest among company employees, and from no less than 3,000 names submitted, the suggestion of ten entrants finally selected was "Challenger".

NORTH KOREA has launched her first modern seagoing cargo vessel, a ship of 3,000 dwt. After a sister ship has been completed, technical preparations will then be made for the building of ships of 5,000 dwt. The yard is at the present time working on fifteen large trawlers which are due to be completed in September.



LAUNCH OF THE "LINKMOOR"

The cargo liner "Linkmoor", 10,400 dwt, was launched for the Moor Line Ltd at the Hebburn-on-Tyne shipyard of Hawthorn Leslie (Shipbuilders) Ltd recently. The christening ceremony was performed by Mrs W. F. Blackadder, wife of a director of the owning company. Also in the party are Viscount Runciman, chairman of the owners, Mr Blackadder and Miss E. Blackadder, and Sir Robin Rowell, chairman of Hawthorn Leslie (Shipbuilders) Ltd.



FOUR BARGES FOR SINGAPORE

Four Admiralty dumb barges are seen being loaded aboard the Ben Line heavy-lift ship "Benalbanach". They are destined for the Royal Navy's base at Selatar, Singapore. Each barge is made of steel and weighs 40 tons. They were lifted overside by the ship's own 120-tons derricks and were stowed fore and aft on Nos 1 and 3 hatch covers which are specially strengthened for this type of work.

THE Indian Government-owned Eastern and Western Shipping Corporations are to be merged into a single Corporation, with a non-official chairman and with non-official members among its board of directors. It is proposed that this new Corporation will enter the India-U.K. Conference and also the Burma trade. Two new shipping routes are being proposed for the Corporation. The first, from the west coast to Japan, may be started this year. The second, to Australia, will be started later.

THE AIR TRANSPORT LICENSING BOARD has granted licences to Channel Air Bridge Ltd, and East Anglian Flying Services Ltd, for a joint service between Southend and Ostend from April 15 to October 31. The Board state that the licences will be effective for this year only.

THE HUNGARIAN T.U.C. is to order a seagoing passenger liner for holiday visitors. Smaller in size than the *Fritz Heckert*, recently completed in East Germany, she will have accommodation for 200 passengers. It is not known where she will be built, but it would seem probable that it will be at Budapest. She is expected to be completed by 1963.

THE American-designed flume stabilisation system is to be installed in the T2 tanker *Transmundo*, now being converted into a 15,200-dwt bulk carrier at the Akers group shipyard at Stord, Norway. It will be the first installation in a European shipyard and the vessel will be one of the first dry-cargo vessels of this size to be fitted with any form of stabiliser.

A 60,000-TONS DISPLACEMENT TANKER, to be called *Sofia*, has been laid down at the Leningrad shipyards. The first of a series, she will have a cargo deadweight of 43,500 tons. Every member of the crew will have his own separate cabin, and the living quarters will be completely air-conditioned.

THE FORMAL INVESTIGATION into the collision between the motorship *Teal* and the South Goodwin Light Vessel on 30 November 1960 has been fixed for hearing at the Council

Chamber, Holborn Town Hall, London WC1, on June 5 at 10.30 a.m.

DAVID BROWN INDUSTRIES LTD, of Huddersfield, are contemplating an extension of their gear-manufacturing activities to Wearside. Negotiations are well advanced for the leasing of a factory on the Pallion Trading Estate, Sunderland.

ALL CORRESPONDENCE concerning the South American Saint Line Ltd should be directed to R. Nerdrum Ltd, Lloyd's Chambers, Crutched Friars, London EC3, from May 1.

A LARGE CONTRACT has been placed with Lansing Bagnall Ltd by the Admiralty for the supply of a number of industrial trucks.

THE SUEZ CANAL AUTHORITY is to authorise the transit of vessels at 37ft draught from the South, provided that a satisfactory transit has been made at 36ft, from April 30.

MR W. F. PASCOE and Mr W. E. Loveridge are to resign from the board of London & Overseas Freighters Ltd.

A SCHOOL for training engineers in the use of electronic equipment has been established by Associated Electrical Industries Ltd at New Parks, Leicester, headquarters of the Electronic Apparatus Division.

RECENT SHIP SALES

(Continued from page 394)

Afolf (A. Bratt & Co), Gothenburg, to Greek buyers for about £26,500 with survey due.

Motor vessel *Fryken* (1,225 dwt, 1,024 grt, 464 nrt, built Aalborg 1938 by Aalborgs Værft A/S) sold by Angbats A/B Firm, Gothenburg, to Finnish buyers for about £49,000.

Cargo steamer *Delunga* (3,022 dwt, 2,333 grt, 1,161 nrt, built Newcastle, N.S.W., 1947 by N.S.W. Government Engineering & Shipbuilding Works) sold by Australian Coastal Shipping Commission, Newcastle, N.S.W., to Lucas Navigation S.A., Panama, and renamed *Pingan*.

Motor vessel *Corinda* (4,952 dwt, 3,376 grt, 1,930 nrt, built Sunderland 1937 by Short Brothers Ltd) sold by Australian United Steam Navigation Co Ltd, Adelaide, to the Power Navigation Co Ltd, Hong Kong, and renamed *Silver Gulf*.

Liberty-type cargo steamer *Amsteldiep* (ex-*Robert Fruin*, ex-*Thomas A. Hendriks*, 10,764 dwt, 7,229 grt, 4,430 nrt, built Portland 1943 by Oregon Shipbuilding Corp.) sold by N.V. Reederij Amsterdam, Amsterdam, to London Greek buyers for £96,500.

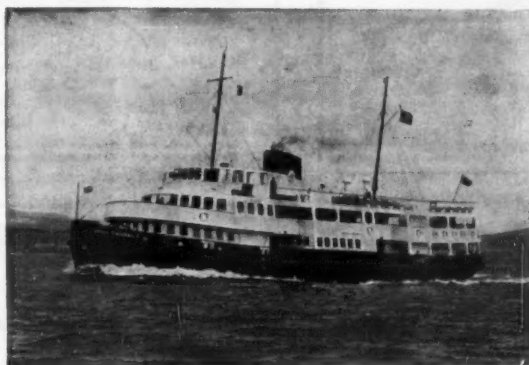
FIFTY YEARS AGO

From THE SHIPPING WORLD of 26 April 1911

The loss of the Empreza Nacional Company's liner *Lusitania* on Bellows Rocks, just to the south of Cape Point (Cape Colony), is somewhat hard on underwriters, as the risk falls on the 1910 policy of the fleet, on which a total loss of the *Lisboa* has already been collected. The *Lisboa*, which was a new steamer valued at £90,000, was wrecked last October north of Cape Town, while bound from Lisbon to Mozambique; while the *Lusitania*, valued at £75,000, and next highest valued boat in the fleet, has been wrecked on the return voyage from Mozambique. For many years the fleet of the Empreza Nacional Company, of Lisbon, has left a handsome profit to underwriters, but it will take a long time to compensate for these two exceptional losses.

The new Nelson liner *Highland Corrie* has made a record run from Buenos Aires to London in 20 days and 4 hours, thereby beating the mail service by 24 hours. The *Highland Corrie* is one of nine or ten sister ships built for the Nelson Line's new service from London, four of which were given to Messrs. Cammell Laird to build.

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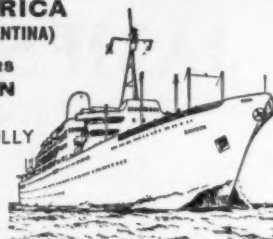
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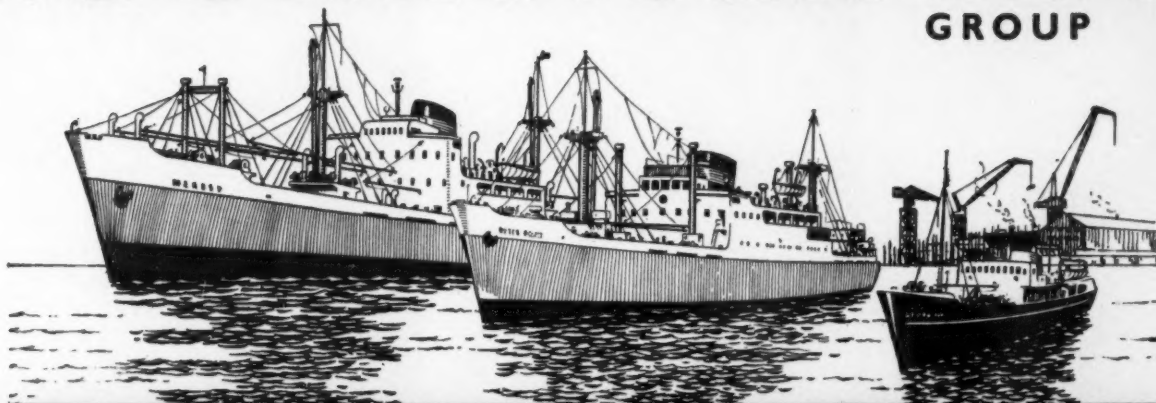
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INDEX TO ADVERTISERS IN THIS ISSUE

	Page
Agence Maritime Internationale	A33
Alison & Co. Ltd., J. Gordon	A32
Atlas, S. A.	A32
Bahar, Mohamed Abdul Rahman	A32
Bank Line	A6
Barnard & Sons Ltd.	A8
Bassett-Lowke Ltd.	A28
Balliss & Morcom Ltd.	A8
Berger (Great Britain) Ltd., Lewis	A5
Bibby Bros. & Co.	A31
Black Star Line Ltd.	A27
Blotcube Controls Ltd.	A24
Blue Star Line Ltd.	A30
Blundell & Crompton Ltd.	A28
B.P. Trading Ltd.	A23
Burntisland Shipbuilding Co. Ltd.	A33
Cammell Laird & Co. (Shipbuilders & Engineers) Ltd.	A12
Cantieri Riuniti Dell'Adriatico	A13
Cape Insulation & Asbestos Products Ltd.	A9
Castrol Industrial Ltd.	A16
Centromor	A24
Cochrane & Sons Ltd.	A25
Cory & Son Ltd., Wm.	A23
Cowal Engineering Co. Ltd.	A24
Decca Navigator Co. Ltd.	A19
Decca Radar Ltd.	A3
Denholm (Management) Ltd., J. & J.	A33
Drypool Engineering & Dry Dock Co. Ltd., The	A24
Fiat	A4
Frank Ltd., Charles	A32
Furness Withy & Co. Ltd.	A31
Galliaty, Hankey & Co. Ltd.	A30
Hall Ltd., J. & E.	Back Cover
Higgins & Co.	A32
Holoplast Ltd.	A26
Houlder Brothers & Co. Ltd.	A31
Kockums Mek, Verkstads A/B	A14
Lamont & Co. Ltd., James	A29
Lavino Shipping Company	A28
Leigh Ltd., W. & J.	A22
MacAndrews & Co. Ltd.	A6
McGeoch & Co. Ltd., Wm.	A8
Mitchell Cotts & Co. Ltd.	A28
Moss Hutchison Line Ltd.	A30
North of England Protecting & Indemnity Assocn. Ltd.	A30
New Zealand Shipping Co. Ltd.	A31
Odense Steel Shipyard Ltd.	A11
Officine Allestimento e Riparazioni Navi.	A2
Pleuger Unterwasserpumpen GmbH.	A10
Port Line Ltd.	A31
Potter Ltd., J. D.	A30
Power Petroleum Co. Ltd.	A18
Prince Line Ltd.	A31
Royal Mail Lines Ltd.	A30
Rye Arc Ltd.	Front Cover
Shell Mex & B.P. Ltd.	A17
Sheppard & Co. Ltd., A. E.	A32
United Baltic Corporation	A6
United States Lines Co.	A15
United Technical Supplies Ltd.	A10
Vickers-Armstrong (Shipbuilders) Ltd.	A7
Weir & Co. Ltd., Andrew	A6
Weir Ltd., G. & J.	A20
Weir Ltd., J. & R.	A30
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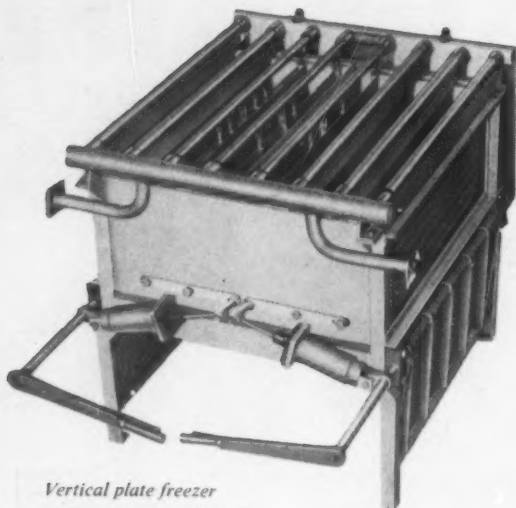
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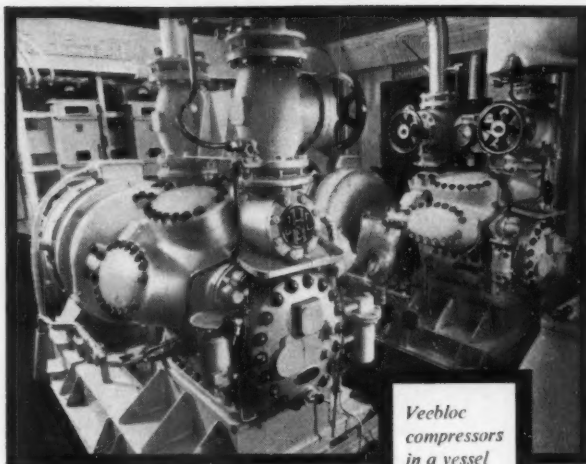
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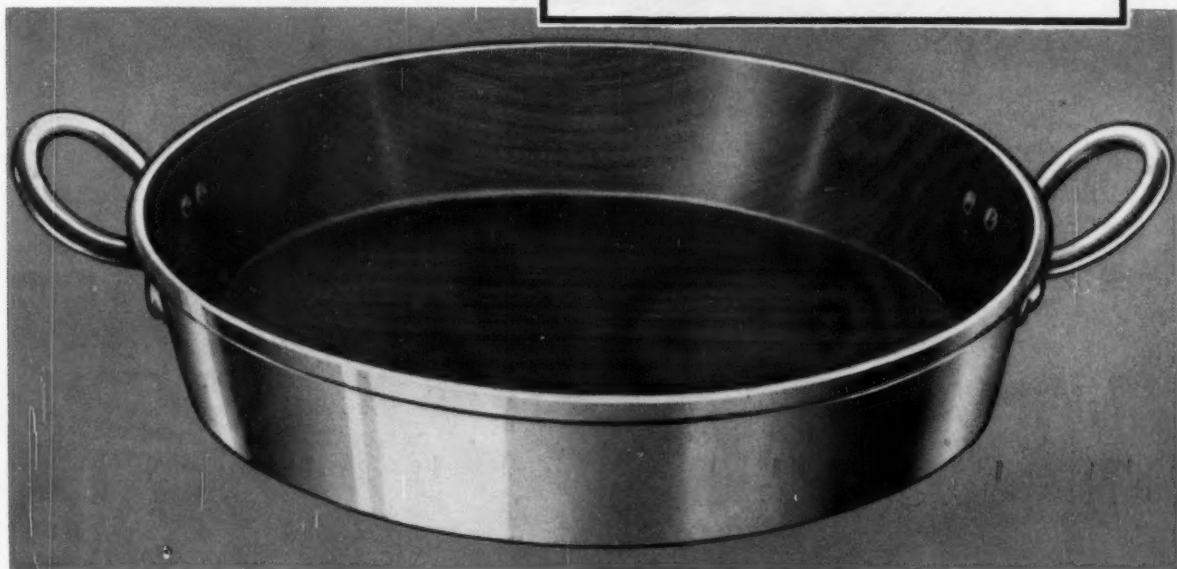


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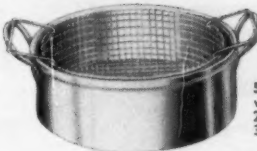
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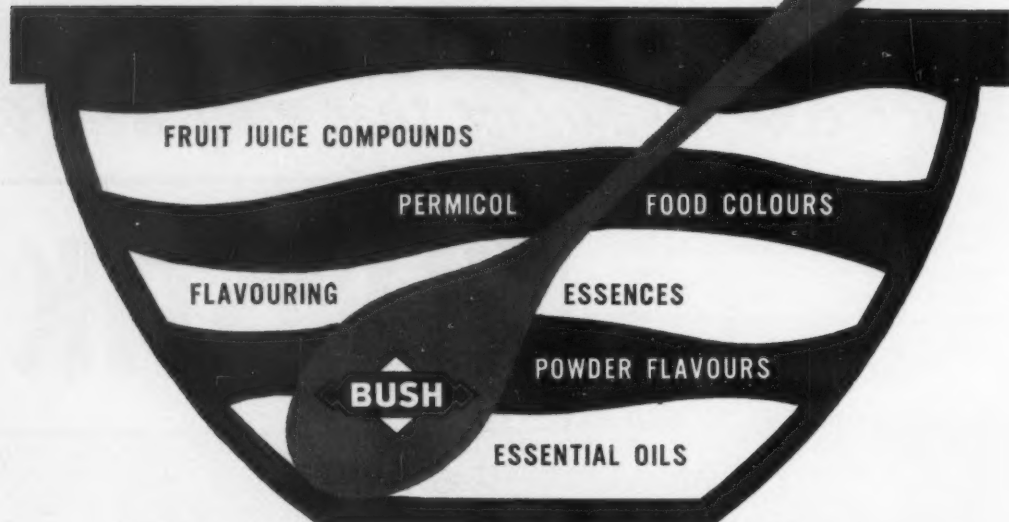
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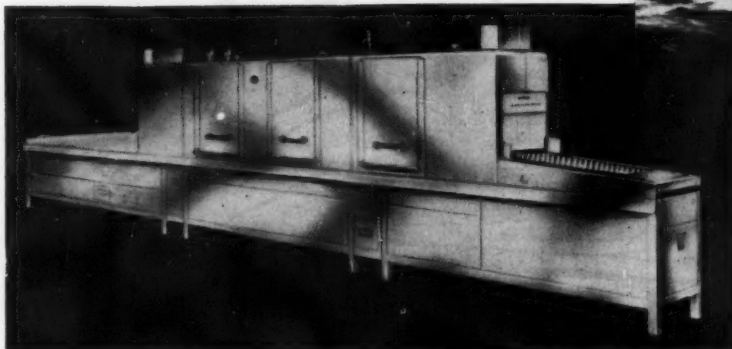
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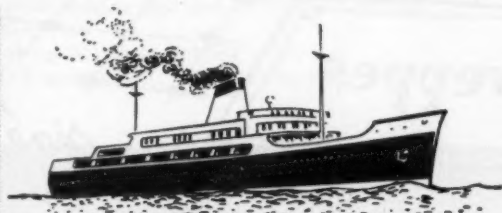
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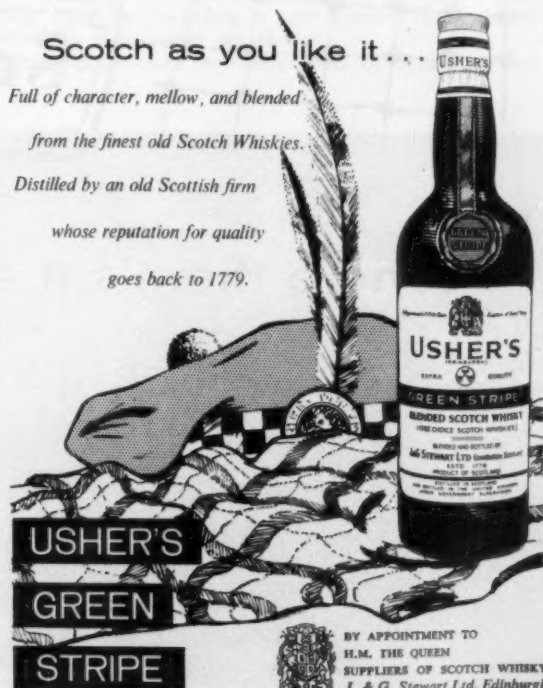
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SHIP STORES AND CATERING

The Tuborg Breweries

MORE THAN 450 MILLION BOTTLES A YEAR

EVER since they were founded in 1873, the Tuborg Breweries have endeavoured to bring the best possible beer and mineral water to consumers with the best possible technique and highest quality. More than ever this goes for Tuborg's production today, which at a level of about 375 million bottles of beer and about 80 million bottles of mineral water ranks the breweries as one of the biggest producers in its field in Europe.

That Tuborg is not only one of the biggest, but also one of the most modern breweries in Europe today, can be seen from a general tour round the plant, e.g. the brewhouse, the fermenting cellars, the storage cellars, the bottling hall and the distribution hall, which have all in recent years been modernised and enlarged to follow up the ever increasing demand from the home market as well as from the more than 100 markets all over the world to which Tuborg exports. Since the end of World War II Tuborg has invested more than Kr100 mn (more than £5 mn), and an important part of these new investments are the main bottling hall and the distribution hall.

Bottling Hall

Tuborg has three bottling halls:

(1) *The main hall:* The capacity of this hall is now four

units of 240 bottles a minute, one unit of 400 bottles a minute and one unit of 500 bottles a minute. The latter was constructed only last year and is probably the largest one in Europe. The total capacity thus amounts to 1,860 bottles a minute.

(2) *The export bottling plant:* While the main bottling hall takes care of the domestic supply and some export orders, the bulk of the export bottling takes place in a special plant. The main reason for this is that while standard bottles are used on the home market, a large variety of types of bottles and bottle dressings is used for the export, which is thus much less standardised, many markets calling for special equipment. The export plant has two bottling lines, and about four years ago a line was constructed for the filling of canned beer, which is exported to an ever increasing extent.

(3) *Mineral water plant:* Tuborg also has a considerable production of mineral waters and soft drinks. All these drinks are bottled in a standard bottle (25 cl compared to 35 cl beer bottles). The plant contains several filling machines, including a new synchro-mix machine, which fills nine bottles per second.

The export orders in various sizes of bottles or cans



are packed either in wooden cases or in cardboard cases. This is done at the export bottling plant, and the work is carried out by a machine which places 24 bottles vertically in each case. From here the cases, of which six or seven different types are used according to the type of bottle or can, are also brought to the distribution hall by conveyor belts.

Distribution Hall

With the construction in 1959 of a distribution hall with a storage capacity of over 5 mn bottles in cases, Tuborg was able to concentrate its distribution from all three bottling halls at one place. Arriving in the hall the domestic beer cases (with 50 bottles each) are led along to conveyor belts to palletisers which can each fill about one pallet a minute with 30 cases in three layers. Mineral water cases, which weigh considerably less than the beer cases, and the various export cases follow a separate conveyor belt and are placed on the pallets by hand.

The ready pallets are brought to the hall by a fleet of fork-trucks; until recently the pallets were piled three on top of each other, but fork-trucks are now being tried, which are able to place the pallets in four layers, thus increasing the capacity of the storage space by one-third. All cases are marked according to the date they are placed in the hall and are also removed in accordance therewith.

All beer and mineral water is thus distributed from this hall, and all modern means of transportation are used. The depots on the island of Sealand (on which Copenhagen is situated) and the smaller islands connected with bridges collect the beer at the brewery by trucks. The depots on the island of Funen and the other, more remote islands as well as Jutland are served either by train (mainly inland districts) or by ship.

As both shipping companies and railways have fork-trucks, the beer very often stays on the pallets either until it arrives at the final railway station or harbour—in cases where the depot is big enough to have a fork-truck, it is even brought to the depot and stored there on pallets. This way of packing and distributing the cases has brought the handling of the goods down to a minimum. Tuborg is favoured by its geographical position, partly because of its adjoining harbour (the biggest private harbour in Denmark) through which considerable amounts of raw material arrive (e.g. barley), partly by the nearby Hellerup railway station.

The bulk of the export is sent by ship to the various agents, though some mid-European markets are served by

rail. Empty bottles are to a great extent returned from a number of near, foreign markets, especially from such markets from which ships may return to Denmark with some idle space. Usually the empty bottles do not return from the more remote markets, and the breweries are therefore beginning to introduce the lighter and less expensive one-way bottle for these markets.

Canned beer is only sold for export, as the cans are more expensive than the bottles, which furthermore in Denmark are returned to the brewery and are used on average 25 to 30 times. Canned beer is primarily sold to American and other foreign armed forces, and to air and shipping lines, though an increasing demand is rising in the U.S. and the U.K. Except for the U.K., where Tuborg Lager (Gt. Britain) Ltd has been founded with one purpose (to sell Tuborg) export is usually carried out through local agents, normally already well established in the trade, though on the bigger markets agents generally may be appointed as intermediates between the brewery and the local agents and distributors.

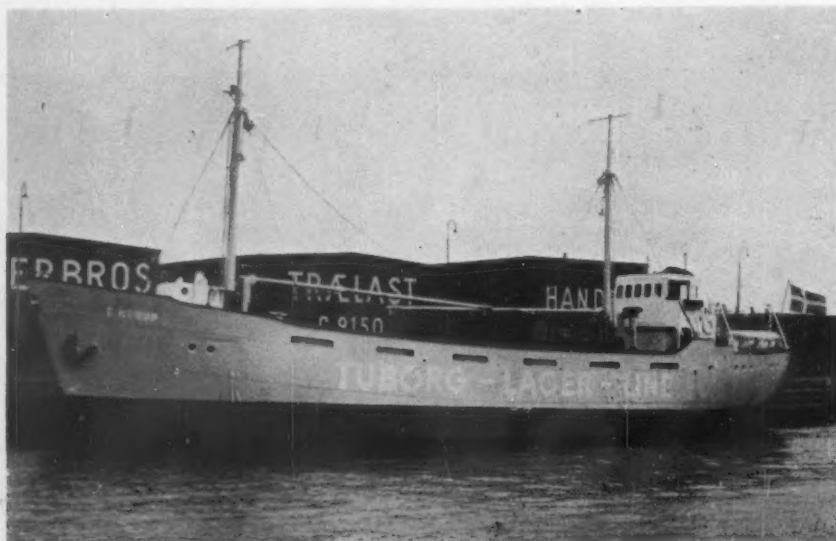
Fermentation and Ageing

No Tuborg beer is shipped to markets until the fermentation and ageing have been completed. It takes up to six months to make a good export beer, a principle everyone at Tuborg accepts and lives up to. There is, in fact, considerable similarity between beer and wine in production methods and raw materials. Whereas wines are produced from the grapes of sunny southern latitudes, Tuborg beer is made from fresh, malty Danish barley. But the Danish brewer has the advantage over the wine producer that he has the privilege of being in a position to choose from Denmark's great variety of malt barleys that particular type which year after year yields the best and most uniform product.

In the old days it was said that "beer is beer", but that no longer holds true. There are breweries that have not yet learnt the significance of proper ageing. Only through that long secondary fermentation, practiced at the Tuborg breweries, is that light bouquet brought out which has won acclaim the world over. The King's Brewhouse, Denmark's oldest brewery dating back to the 15th century, and the Tuborg breweries are under the same management, and behind Tuborg beer lies therefore 500 years' brewing tradition combined with modern science and technology.

After the initial fermentation comes that process of slow secondary fermentation and ageing which is so vital to quality beer. This process takes place at the freezing point in tanks of stainless steel, suspended in cellars (which paradoxically rise 12 storeys above the ground). There are 1,400 tanks with a capacity of 335,000 barrels.

The secondary fermentation gives the beer clarity and important keeping qualities, and brings out the pure, clean, well-rounded taste. The beer is left completely alone in the hands of time and nature. Saturated with its natural carbon dioxide the beer rests in the huge tanks up to six months.



One of the chartered ships in the Tuborg Lager Line, serving the U.K. and Eire

Fabrics and Furniture

A SURVEY OF CURRENT TRENDS

FIBRE GLASS holds many possibilities of interesting new furniture designs. Furniture manufacturers who previously thought this material would be too difficult or too expensive for them to handle need no longer hold back. Manufacture of a wide variety of light new fibre glass furniture is being undertaken by Vitesta Ltd, a newly-formed subsidiary of Vitafoam Ltd. Vitesta have appointed Aidron Duckworth as design consultant. He is one of England's leading experts in glass reinforced resin moulded furniture. Examples of two new chair designs by him are a simple dining chair and a large but light easy chair. The easy chair is of double shell cavity construction, with latex foam cushioning and Vitaweb rubber strapping in both seat and back. The dining chair has a recessed seat accommodating a thin latex foam cushion. Vitafoam Ltd have also introduced the first fibre glass bed. The glass reinforced resin moulded frame surrounds nylon webbing arranged in a diamond pattern for strength and the slight resilient support needed for the latex foam mattress. The thin coloured frame allows two easily accessible storage drawers to be fitted into the base, and yet there is still enough room for easy cleaning beneath the bed. This divan would be ideal for use in a bed-sittingroom, since the bed cover can be neatly tucked under the mattress. Fibre glass can be used for contemporary furniture or for more organic shapes. Vitesta's service might well open the door to a completely new school of furniture design.

Arborite—A New Plastic Laminate

A PLASTIC LAMINATE made in Canada called Arborite has been made available in Great Britain. There is a wide choice of over 200 patterns, colours and effects including a range of woodgrains, marbles and contemporary



Examples of glass reinforced resin chairs by Vitesta Ltd

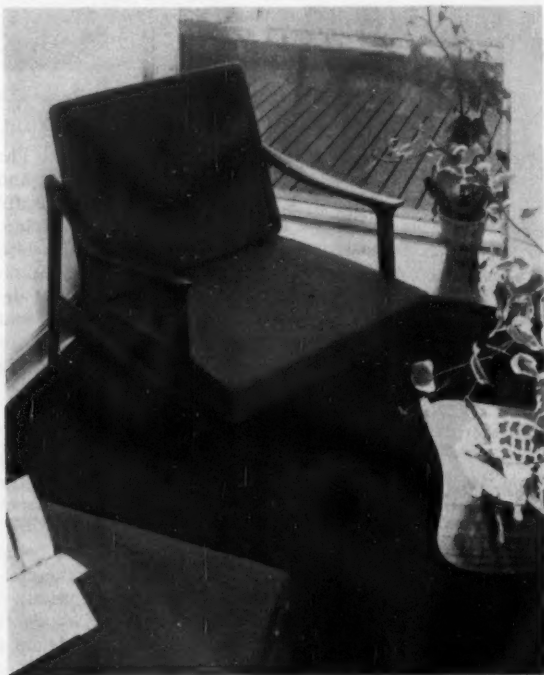
designs of excellent quality available to furniture manufacturers. These are being used not only for the kitchen but also for furniture for the dining and living rooms and for bedrooms and bathrooms. Arborite's extensive range of silk screen and inlay effects can provide exclusive designs. In addition to a furniture finish Arborite also has a high gloss finish—an exciting alternative to the more common matt surface. Arborite has many other applications such as wall panelling etc.

Courtolon—A New Nylon Yarn

COURTAULDS LTD have produced a new bulked nylon yarn named Courtolon which is being put into commercial production for making upholstery fabrics. Two fabrics are at present in production. The first is a knitted rib fabric in 100 per cent Courtolon made by Haigh & Hamer, of Bacup. This fabric has been submitted to severe wear trials and has been most satisfactory. Because of its 100 per cent washability and stretch it is considered most suitable for loose seat covers. The second fabric has been made up into a moquette and is one of a number of designs by Mellors Munro Ltd, of Bradford. The majority of the pile is Courtolon on a cotton backing.

Stiletto-proof Carpets

A NEW stiletto-heel resistant 100 per cent nylon carpet was recently produced by Shildon Carpets Ltd in a range of 15 new colours and seven different designs. The secret of the new stiletto heel resisting carpet lies chiefly in the closeness of the weave and in the special nylon which is used, a nylon so strong that it has set quite a problem. The new carpet has taken six months longer to produce than anticipated, because of the shearing difficulties. Owing to the type of nylon the firm could not cut even five yards without blunting the knife blades. The strongest steel knives were obtained, but they could not withstand the nylon. The knives are now sharpened every night so that this unique weave can be produced. Even the most pointed heels cannot ruin this new carpet. The foam rubber underlay is also thicker than normal so that the carpet sinks luxuriously under foot—with the advantage that the pile—even if it springs back more slowly than traditional carpeting—makes a complete recovery. Designer Ronald Grierson has produced seven different designs—one of which has been named "Stiletto".



A chair with loose covers in Courtolon fabric



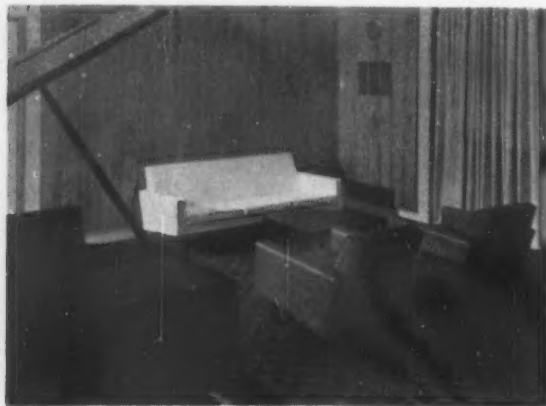
Three of the new designs for 1961 by Ercol Furniture Ltd

Latest from Ercol

Ercol Furniture Ltd have added four new pieces to the range this year. They comprise a sideboard, No 455; a long occasional table, No 456; an occasional table, No 457; and a three-tiered trolley. The sideboard is made of solid elm and is an excellent example of the treatment of this wood, in natural colour waxed finish. The three large drawers, the top one of which has a sliding and detachable cutlery tray with movable divisions, have a large cupboard on either side fitted with adjustable solid elm shelves. All surfaces of doors and drawers are softly curved and waxed polished throughout—front, back and all interiors. This sideboard can be used as a room divider or versatile serving table. The long occasional table, like most furniture from this firm, is made of solid elm and beech in natural colour waxed finish; this is an extending table with an under rack. It has optional foam rubber cushions, fitted with detachable covers for easy cleaning, which becomes a seat. The cushions can be stored underneath when not wanted. The occasional table is again made of solid elm in natural colour waxed finish with rimmed elm undershelf. This all-purpose table has moulded handles and is small enough to be carried as a tray. The three-tier trolley has moulded elm details which give a look of lightness and elegance. The capacious shelves can hold cocktails, a full service and after-dinner coffee.

Austinsuite Tambour Range

F. AUSTIN (LEYTON) LTD, makers of the Austinsuite range of furniture, have produced the Tambour range of bedroom furniture. The main feature of the wardrobe in this range is the sliding door. This goes into the inner side of the robe giving complete access to the interior.



Two examples of the Clifford settee and chairs from Hille of London, on board the P & O-Orient liner "Oriana"



The Tambour robe, cupboard and dressing stool by F. Austin (Leyton) Ltd

The door is mounted on long-life plastic runners. The wardrobes are available in 3ft, 4ft and 4ft 6in sizes and are 22½in deep with full length hanging space. A useful addition to the wardrobe is an extra cupboard on top, which, in effect, is a continuation of the robe. This also has a sliding door and is useful for small cases, blankets and bedcovers. To reach the cupboard the firm has designed a step-up dressing stool with hinges at the seat which provides a firm standing surface. The Tambour range is available veneered in mahogany with contrasting rosewood or mahogany, satin-finished.

Replin in the "Empress of Canada"

THE NEW Canadian Pacific Steamship *Empress of Canada*, whose entire interior decoration has been the responsibility of a single consultant, is shortly to enter service. Mr Paul Gell, consultant designer to the Canadian Pacific Steamship Company, has created a ship interior which is modern in effect, while retaining the conditions of comfort and harmonious decoration essential to a passenger vessel. Since the *Empress of Canada* is likely to be used for either or both the North Atlantic run and pleasure cruises, the decorative scheme had to combine the warmth necessary to smooth the rough passage and the liveliness required to spice the more leisurely



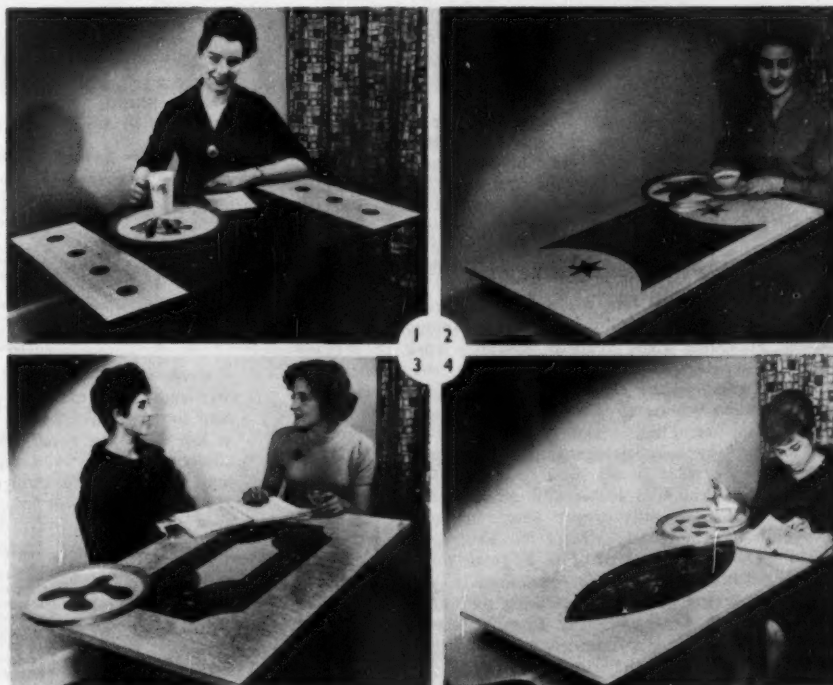
A Uniflex "Heritage" settee covered in Auralan 75 made by Storeys of Lancaster Ltd

journey. Varied use of colours and patterns, on floor and furniture coverings, as well as in the spaces themselves, achieved this seemingly contradictory end. The selection of the appropriate fabric is all important for the success of a furnishing scheme. Replin has been used in both staterooms and public spaces, its colour and texture being variously exploited in both plain and striped patterns, whether used separately or in combinations of both. A specially woven stripe of black, tan and white was designed by Mr Gell for the cinema as an integral part of a very striking all-over scheme. Altogether, 1,500yd of this finely woven, hard wearing fabric have been used in the ship.

Auralan 75

STOREYS OF LANCASTER have produced an entirely new pile fabric for the upholstery trade. Auralan 75 is manufactured by a special electrostatic process, which ensures that the pile is uniform throughout the material and is so

distributed as to give the best possible resistance to wear. Extremely attractive to look at, delightful to feel, and comfortable in wear, Auralan has a rich appearance unlike that of any other fabric—mainly due to the incorporation into the pile of fibres of different lengths and colours. The pile is resistant to crushing and, after prolonged wear, can be restored easily to its original state by vigorous brushing. It is easy to clean, dust can be removed by brushing and any dirt by sponging with soapy water or a mild detergent. Dry cleaning should be avoided. Due to the composition of the backing cloth dirt and dust are prevented from penetrating to the internal structure, and the material is waterproof. Auralan 75 is a breathable fabric suitable for all types of upholstery and cushions. The pile is of Courtaulds rayon fibres on a polyvinyl chloride Acrylonitrile base. The available colours are: pierrot red, lapis lazuli, camellia, mellow brown, chasseur, and black.



Four examples of the "Harmony" range of plastic laminates by Fablon Ltd. This range has two or more decorative laminated patterns incorporated in a single sheet of material:

- (1) The charcoal and white Antigua pattern
- (2) Two woodgrains, walnut and birch-grey
- (3) A black marble design blended into grey Taverline
- (4) Another black marble design on the same background

CATERING NOTES

New Style Meal Service

BECAUSE of the serious shortage of first-class waiters, many shipping lines are faced with a top policy problem: whether to accept a lowering of their traditionally high standards of waiter service or whether to develop a completely new system of meal service. Nederland Line Royal Dutch Mail, renowned for its high catering standards, has closely studied the problem in cooperation with Stotts of Oldham (the British catering equipment manufacturers) and Calefax Ltd, Stotts agents in Holland. Discussion and analysis of various suggested schemes has continued for several months, for the changes involving personnel, equipment and procedures are considerable. A high standard plate-service scheme introduced as an experiment in one of the company's vessels was closely studied and has formed the basis for what is regarded as the ideal solution. The new catering system was introduced in the flagship *Oranje* (20,565 tons) in February.

Top waiters are concentrated in the first-class saloons, where traditional silver service will continue. The 750 tourist passengers have a standard of plated service probably unique in shipping. Their menu is almost as extensive as before—including, for example, a choice of four or five soups (both hot and cold), intermediate courses and eight or ten main courses. Waiters (many of them Chinese) take individual orders at the passengers' tables and then plate the required food at newly installed service counters in the pantry adjacent to the saloon.

"The quality of food is as high as ever," said Mr. Robert Kruseman, managing director of Calefax. "Passengers still have a menu at least equivalent to that in a first-class hotel. The essential difference is that the food is plated at the service counter and brought by the waiters to the passengers instead of being served at the table out of silver dishes and tureens."

Not only does the new scheme provide an acceptable solution to the shortage of fully-trained waiters—220 would be required on the *Oranje* alone—but inventories of serving silver and cutlery are greatly reduced. In addition, it has been firmly established during trials that the amount of food wasted with the new system is less than before and that important savings are made in labour used for washing up etc.

On February 16 the *Oranje* called at Southampton to pick up a Stotts fitter and several thousand pounds' worth of catering equipment designed and built by Stotts. Then, at Amsterdam, the equivalent of 14 days' conversion work was carried out by round-the-clock shifts to permit the vessel to begin a scheduled round the world voyage on February 26. Among the Stott equipment supplied to the *Oranje* were: an L-shaped 36ft hot counter; a U-shaped 24ft cold counter with special pairs of insulated containers for cold soups and ice cream; a 13ft back counter unit, with electric griddle plates to increase the pantry's capacity for English-type breakfasts; and seven electric plate warming cabinets. The steam-heated counters are all in Formica and stainless steel to blend with the saloon's decor and provide the highest standards of hygiene. The counters incorporate additional coils to compensate for the limited steam capacity available.

Winning Frenlite Recipes

J. W. French & Co Ltd, the millers of Frenlite flour, have played a leading part in the scientific development of flour milling. Following many years of research work, in conjunction with agricultural scientists, they have devised their own system of selecting the right types of home-grown, Canadian and Australian wheats to produce the most satisfactory flour for domestic use. These wheats are cleaned, washed, brushed and matured by a special process, which enables the finest flour to be extracted in an ideal condition. When the wheat is absolutely clean and matured it passes from the cleaning department to the mill proper where ingenious machinery opens up the grain and extracts the flour and a large part of the germ of the wheat. For a great number of years, J. W. French & Co Ltd have specialised in producing a fine flour for domestic use with a pleasing naturally creamy-white colour, without the use of any form of chemical bleaching agent. Recently a recipe competition was organised, and the following are some of the winning entries.

GOOD FORTUNE FAMILY CAKE

Ingredients, 6 oz fat (4 oz butter, 2 oz margarine)
7 oz caster sugar
3 eggs
12 oz Frenlite self-raising flour
good pinch of salt
10 drops vanilla essence
and for later addition:
1 oz glacé cherries, almonds and citron peel
1 oz ground ginger
1 oz crystallised ginger
1 oz desiccated coconut

Method: Well cream the fat and sugar. Add whisked eggs very slowly beating all the time. Fold in the sifted flour and salt. Add essence. It should be of 'dropping' consistency. If needed, add small amount of water.

By weighing or counting tablespoons separately into four basins with one having slightly more than the others. This slightly larger section is the Madeira Cake mixture to which nothing else is added except decoration.

To one of the other sections add the chopped or halved cherries, to another the coconut, and to the other the ground and chopped ginger.

By folding kitchen-foil, separate an 8in cake tin into four sections. Carefully fill each section with the four mixtures. For recognition purposes and decoration add slices of crystallised ginger to the top of ginger section—a couple of cherries to cherry section—blanched almonds on the coconut, and a piece of citron peel on the Madeira section. Place in middle shelf over at 300 deg F or No 2 for 1½ hours.

MOORISH CAKE

Ingredients, 1 round cake tin 9in x 3in deep, previously greased with butter, and lined with butter-greased linings, the sides of which should extend 2in above the top of the tin.
1 lb cheapest butter or best margarine
1 lb Frenlite self-raising flour
1 lb mixed dried fruit previously washed and dried
1 lb glacé cherries cut into sections
2 oz cut mixed peel
2 oz chopped blanched almonds
6 tablespoons dark brown sugar
1 pinch salt
2 tablespoons treacle or golden syrup
2 large or 3 standard eggs
1 small teaspoon browning (for colouring)
2 small teaspoons of warm water

Method: Rub the butter or margarine into the flour. Now add all your dry ingredients and mix thoroughly. Mix together the syrup, beaten eggs and browning into approximately one cup full of warm water until the syrup is dissolved. Add this mixture to the dry ingredients gradually, adding more of the warm water if the texture seems too dry. Put this mixture into your cake tin you have already prepared, taking care that the mixture comes at least an inch below the top of the cake tin. Bake for one and a half hours minimum at 320 to 350 deg F or No 3, or until a clean knitting needle inserted into centre emerges quite clean and the cake is a lovely golden brown. Be very careful to let the cake cool off gradually in a warm kitchen before turning out.

MOUNTAIN RANGE CAKE

Ingredients, 10 oz sifted Frenlite flour
1 lb caster sugar
1 tablespoon baking powder
1 teaspoon salt
1 teaspoon ground cinnamon
1 teaspoon ground nutmeg
1 teaspoon allspice
1 teaspoon ground cloves
7 eggs, separated
2 tablespoons caraway seeds
1 gill salad oil
1 gill iced water
1 teaspoon cream of tartar

Method: Sift first eight ingredients together several times. Mix egg yolks, caraway seeds, oil and water in large bowl. Add dry ingredients. Beat 75 strokes by hand or half minute at low speed on mixer. (Add few drops of lemon extract for different flavour.) Add cream of tartar to egg whites. Beat until stiff. Gradually pour egg yolk mixture over beaten whites, gently fold in. Pour into 10in tin, bake in very moderate oven (325 deg F, Mark 3) for about 55 minutes. Invert to cool cake.

Icing, 3 oz butter
2½ tablespoons flour
1 teaspoon salt
1 gill milk
3 oz soft brown sugar
8-10 oz sifted icing sugar
1 teaspoon vanilla essence
1 lb chopped walnuts

Every County Soup mix is a *Special*



The basic reason why County Soups taste so much nicer is quite simple. Each soup is treated as an entirely separate and distinct product in every way. For each variety the finest possible ingredients are chosen separately for that particular soup. For each variety

the finest recipe is selected. For each variety the finest method of blending is used. Thus, every County Soup is a "special" – not just one of a range. There are fourteen delicious varieties. And they are all very simple and quick to prepare.



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County, the quality dehydrated soup-mixes. Asparagus, Beef, Celery, Chicken, Chicken Noodle, Clear Vegetable, Green Pea, Kidney, Mushroom, Oxtail, Onion, Tomato, Vegetable, Minestrone.

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Blend butter, flour and salt in saucepan. Cook one minute, do not brown. Add milk, cool until thick. While hot add brown sugar and beat well. Add icing sugar as needed, beating until thick and creamy. Mix in essence and walnuts. Spread over top sides of cake.

Cable Ship Catering

A Cardiff man, Mr H. I. Lewis, has been appointed purser of Cable & Wireless Ltd's new cable repair ship the *Retriever*, which is to be commissioned this month. As the majority of the crew will be Spanish they will naturally expect their cooks to provide them with traditional Spanish fare and it is likely their diet will include lots of rice dishes such as paella. The ship will have 19 deck, engineer officers and electrical staff; purser, surgeon, two apprentices, 12 petty officers (five British and seven Spanish), 11 engineroom staff, 26 deck crew and 16 cooks and stewards. Mr Lewis, who is 37, was formerly purser in the cable ships *Electra* and *Lady Denison Pender*. He joined the company as Chief Steward in May 1951 and served on the cable ships *Norseman*, *Cable Enterprise* and *Mirror*. He was promoted purser in May 1956. He has to stock his pantries with two months' supply of victuals, dry

well as syrup, honey etc; 30 cases tinned fruit; tinned and frozen vegetables; tinned cakes; biscuits; sauces; curry powder; pickles; packets of soup; fresh fruit and a small supply of fresh vegetables. Mr Lewis said that they would rely mainly on frozen vegetables, as they were much preferable to stale fresh ones.

"Day-Dream" and "Chocolate Dream"

In response to requests from catering trade customers now using the specialised materials made by them, Ch. Goldrei, Foucard & Son Ltd have prepared a booklet for use with "Chocolate Dream" and "Day-Dream" complete pudding and cake mixes. The booklet, which is easy to read, gives clear and concise instructions for the use of these products together with many detailed recipes, each one specially prepared for caterers, showing the water in pints, oven temperature in regulo numbers as well as degrees Fahrenheit, and the yield in portions, and this latter point will be of considerable assistance to catering managers for their costings. The recipes are illustrated in each case by a photograph and the nutritional values of sweets given in full detail. This comprehensive booklet will be a "must" for every catering manager's desk.

Recipes of the Month

A new series of "Recipes of the Month" has been started by Smethursts, frozen food specialists, and intended to feature each month a different item in the range of quick-frozen foods for caterers. The first two recipes of the series are the following (illustrated opposite):



American Fish Pie

American Fish Pie

1 x 7 lb carton Smethursts' cod fillets, partially thawed
6 lb potatoes
8 oz margarine
8 oz flour
4 pints milk
1 lemon, grated rind and juice
2 level tablespoons chopped parsley
seasoning
1½ lb tomatoes
egg and milk to glaze

Separate the fillets, place on greased baking sheets and cook at 375 deg F for about 20 minutes. Meanwhile cook the potatoes and when tender, drain. Melt the margarine in a saucepan, add the flour and cook for about three minutes. Add the milk and bring to the boil stirring continuously, then add the lemon rind and juice and the chopped parsley. Removing all skin and bone, chop the fish roughly, add this to the sauce and season to taste. Turn the mixture into suitable tins. Cut the tomatoes into 30 slices and place one slice in the centre of each portion. Cream the potatoes and pipe a portion around each slice of tomato. Glaze the potatoes with egg and milk. Bake in a moderately hot oven (375 deg F) for 30 minutes.

Portions: 30. Approximate cost: 8d.



Haricots Verts Garnis

Haricots Verts Garnis (Savoury Green Beans)

1 x 2½ lb carton Smethursts' sliced green beans
½ lb bacon, cut in strips
1 lb tomatoes, skinned and chopped
½ lb margarine or butter
salt and pepper
tomato wedges for garnish, optional

Cook the beans as directed and drain. Meanwhile, melt the margarine and saute the bacon for five minutes. Add the tomatoes and the beans. Toss all together and season. Serve garnished with tomato wedges if desired. Use as an accompaniment to pork chops, liver, steak, etc.

Portions: 20. Approximate cost: 5½d.

Green Giant in England

American interest in the British sales market for canned fruit and vegetables is growing, since the dollar import restrictions were lifted. Yet another of the big American canning companies is launching a selected number of its products on the British market. It is the Green Giant Company of America—an established household brand name on the store cupboard shelves in America and Canada. The decision to open up the international field was made two years ago, and a new subsidiary company—Green Giant Company (International) S.A., 16 Rue de Bourg, Lausanne, Switzerland—was formed. Executives from America travelled throughout Europe and the Commonwealth carrying out an intensive investigation of the canning facilities and market potential. The British sales cam-

goods and drinks as well as the deep freezes which will form the nucleus of the ship's provisions. These will be implemented by fresh food taken aboard immediately before sailing, while in accordance with the usual practice, other fresh foods will be bought at the ship's various ports of call. His initial order included: 5,500 lb of frozen meat; 650 lb of ham and bacon; 5,000 eggs, 700 lb of poultry; 1,400 lb of fish; ten cases of salmon; 600 tins of sardines; two tons of potatoes; 500 lb of onions; 3,000 lb of flour; a ton of sugar; 350 lb of coffee; 300 lb of tea; 440 lb butter; five different kinds of cheese; 42 cases of tinned milk; 400 lb of jam and marmalade, as

paign started on March 15, using the Southern and South Eastern counties as a test ground for five canned vegetable products. Green Giant will be entering the very competitive market for canned green peas, and two varieties of green beans. But they will also launch two varieties of their famous canned sweet corn on a less competitive market . . . vacuum-packed Niblets sweet corn, whole kernels off the cob, and Mexicorn—sweet corn kernels mixed with chopped sweet red and green peppers, an entirely new product in Britain. Green Giant are the largest canners of sweet corn in the world. In the United States the product is so popular it has become a staple vegetable in the American diet.

The initial agents appointed to handle Green Giant products are Foley Bros, 39 Tooley Street, London SE1, and Counter Products Ltd is to be used as an additional sales force to help with the launch in Southern England. As the company expands and national distribution becomes possible, Green Giant will appoint several general commission agents in the U.K. Shipments of Green Giant products are steadily arriving in this country. Initial supplies will come from Canada and South Africa, where Mr Darrell Golden, a technical expert from Green Giant in America, has been supervising the planting, growing and canning seasons, to ensure the product is up to the standard of the corn canned in the 21 factories throughout America and Canada.

Seagoing Libraries

Evelyn Waugh, in his new book *A Tourist in Africa*, writes of his trip by sea from Genoa to Mombasa in the *Rhodesia Castle*, and pays tribute to the ship's library. He says that the Union-Castle librarian in London must have a peculiarly difficult task, and that he does it admirably. During his voyage he got through two books a day and never found himself without something readable. Union-Castle's professional librarian is Mr Allen Went. He buys as many as 10,000 books a year for the 13 big passenger ships of the fleet. His job is to select, distribute to ships, exchange between ships, and arrange for repair when "part worn". Mr Went has about 28,000 books at sea at any given moment. He does not buy any paperbacks, and for the last year and a half he has been putting all his new books into plastic covers. This increases the life of even an Agatha Christie to four or five voyages. The gum on the spines of books begins to perish in tropical weather. Another hazard to books is suntan oil, which suntanners often manage to transfer to their library books.

Catering Control System

A completely new catering control system with potential application in cafeteria type ship catering has been successfully launched by a new restaurant, the Pied Piper, Castle Street, Edinburgh. The basis of the system is the use of an electronic signalling device in the kitchen area where messages are

relayed from the restaurant floor signalling panels. These have 15 pushbuttons, each with a named dish. The waitress takes the order and signals the wanted dish to the kitchen where the numbered panel is illuminated. The appropriate chef cancels out the signal on a lower level pushbutton board. These units record the number of signals so that, at the end of the day, the electronic system gives a precise numbered record of dish popularity. This allows advance buying or advance preparation of foods for the dishes shown to be most popular. The signalled dishes are collected by the floor staff, and all food taken from the kitchen service line is charged against the numbered waiter removing the food. This is done on a cash register which gives a total against each member of the staff so that the kitchen line cash-out has cumulative totals against each floor assistant over the working period. Staff give bills to the customer in the normal way and these are paid on leaving. Cash balancing is then a simple matter of comparison of the totals at the kitchen cash-out and customer cash-out points. The system eliminates all paper work between floor staff and chefs, reduces waiting time to a minimum, gives an electronic record of dishes ordered and reduces staff walking time tremendously. The menu covers 15 selected main dishes, orderable by pushbutton. Less popular dishes, as demonstrated immediately by the electronic records, are dropped and replaced by others. The system also works on cafeteria lines, the pushbutton panel being located at the entry to the service line and being operated by the customers personally, the rest of the operation being similar.

American Meat Processes

Mr A. Craddock, director of John Gardner (Ship Stores) Ltd, has been visiting America for a three-weeks tour, covering New York and Chicago. In Chicago he was shown the various meat processes from the live animal to the consumer pack. The main object was to see the American approach to preparation, packaging and merchandising, with a view to introducing the best and most adaptable of the new ideas over here. Dr George Wilson, food technologist of the American Meat Institute, showed Mr Craddock much of the research and developments of the Institute. The well known meat firms, Armour and Swift, conducted him on a tour of inspection of their establishments. The ship stores business is, of course, Mr Craddock's main concern and his chief points of interest were: (1) to find out how the Americans handle meat for their ship stores. (2) To see if they have any new ideas in packaging or packaging materials, which will ensure longer life for the meat in best possible conditions. (3) To see how the meat is supplied to restaurants and industrial concerns in America, with a view to possible improvement in our own supplies. (4) To observe the supermarkets. To find out American methods of packaging, temperatures of storage in display cabinets and any new or more efficient methods in merchandising.



The master control system, top left, signals the dish which a waitress in the restaurant has ordered. One of the four chefs at the Pied Piper, Edinburgh, restaurant cancels out the signal on his own lower hand panel. A counting device records the total number of items in each category ordered and cancelled out during the day

Potatoes for the Caterer

CORRECT PRESENTATION AND PREPARATION

CORRECT preparation and presentation of potatoes in bulk catering is simple. Care and knowledge are the chief factors. For this reason, the Potato Desk, Williams House, Eastbourne Terrace, London WC2, has started a special service for caterers. The queries of individual caterers who write to the Desk will be answered. To launch this catering service, the Potato Marketing Board gave a demonstration of the basic ways of potato preparation for mass consumption, at the Wimpey staff kitchens in Hammersmith Grove, London. This showed the step-by-step stages of producing creamed, roast or chipped potatoes for about 1,000 people daily. The Wimpey catering department under its manager, Mr R. G. Earthy, controls about 100 canteens on building sites and designed the kitchens to their own requirements four years ago. Their present method of cooking potatoes, while by no means the hard and fast rule, shows how tasty and good looking this vegetable can be, even though 1,000 portions must be produced each day.

Daily Canteen Routine

Numbered exhibits in the kitchens showed the stages through which the potatoes pass after they arrive from the market.

(1) Six cwt of Majestics or "whites" are bought by Wimpeys daily. They arrive in sacks and are stored in the vegetable room.

(2) The potatoes are graded by hand into size and shape. Smaller even-sized potatoes are selected for boiling and roasting and the larger ones for chipping.

(3) The two grades of potatoes are cleaned by machine which has abrasive surfaces to rub off the skin and should be filled to its 28-lb capacity. Experience teaches just how long the potato should be left in the machine. Wimpeys consider it is better to take the potatoes out with a little skin left on them and to remove this by hand at stage 4, than to leave them in too long so that too much flesh is removed and the profit margin lost.

(4) The two grades, still kept separate, are finished and eyed by hand. At Wimpeys it takes about two hours to prepare the daily 6 cwt.

(5) The potatoes for *boiling* are placed in trays (30 lb per tray) and sent to the steaming ovens.

(6) After steaming, the potatoes may be creamed in large mixers. Wimpeys add 1 lb margarine and 2 pints reconstituted full cream milk per 30 lb. The potatoes are re-seasoned, as the salt originally added is washed out in the steamers. The creaming process goes on all the way through the serving period so that those who have their lunch at 2 p.m. have potatoes as freshly made as those eating at noon. About 150-160 portions are obtained from 1 cwt of potatoes.

(7) *Roast potatoes* are partly steamed then dipped in the deep frier.

(8) The large grade of potatoes for *chips* are chipped by machine then blanched by dipping in the deep frier to seal them and prevent the moisture from entering them and making them soggy. They are then left in batches ready for frying.

(9) The frying process takes only four minutes with the fat at 350 deg F. One part of the four-section frier at Wimpeys will produce 50 portions in four minutes and the frier is run in conjunction with the serving counter so that fresh chips are produced as the customer wants them. Chips form about three-fifths of the daily consumption of potatoes and about 80 per cent on Friday.

These are the normal daily steps in potato cookery at Wimpeys but they also demonstrated cooking jacket-baked potatoes in a bed of salt. The 5-oz even-sized potatoes are scrubbed by hand and dried with a towel or absorbent paper. A baking tray is filled with salt to the depth of 2in, the potatoes bedded in the salt and placed in the oven. The salt, like ashes, diffuses the heat so that the potatoes are cooked evenly and quickly without being blown out or breaking. Cooking takes about 40 minutes for a 5-oz potato at 275 deg F. Serve garnished with butter, chopped chives or cheese.

Selected Varieties

Too many caterers order just "potatoes" without specifying variety and then wonder why the potato they get does not suit a particular dish they are trying to make. The caterer should get to know the different varieties and for which dishes they are most suitable. The Potato Desk will be pleased to advise on this and give information on which varieties are available in different parts of the country.

A general rule to remember is that waxy potatoes are best for chipping, since they do not absorb so much fat and therefore are crisper and less soggy. Floury potatoes are best for creaming and firm ones are necessary for boiling and roasting. The following are the varieties which the Potato Marketing Board selected as of particular interest to caterers:—

King Edward. This is an oval potato with shallow eyes and red markings on a smooth skin. With cream flesh and a clean flavour, it seldom blackens during cooking. Well known and popular, the King Edward is in general supply in the London area and makes a general purpose cooking potato.

Red King. Similar in shape and cooking characteristics to King Edward but has a redder skin which retains its colour longer than King Edward.

Majestic. A white kidney-shaped potato with shallow eyes and white flesh. Its close texture makes it good for frying and chipping since it absorbs fat, but it is also a general purpose potato. Available in England and Wales, Majestic represents about 40 per cent of the total acreage grown.

Kerr's Pink. A round potato in shape with pink skin and red eyes. With a mild flavour, it is mealy in texture, making it suitable for use as flour in scones and cakes in addition to usual potato cooking. This potato is available throughout the winter months in Scotland.

Redskin. A round potato, with pink skin, white flesh, eyes of medium depth and red. When boiled, it is inclined to become "soupy," so it is best baked in its jacket or used for soup making.

Left Overs

No caterer likes to have left-over potatoes and plans to avoid this. Sometimes, however, it is unavoidable but there are plenty of recipes for using these up tastily and attractively. Here are three suggestions:—

Cottage Pie (to serve 24)

Ingredients, 2 lb cooked, mashed potato
6 lb cooked beef and ham mixed
1 lb chopped, cooked onion
2 oz chopped sage
8 eggs
salt and pepper
Topping, 4 lb creamed potatoes



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Almond Potato Tart

Mix together the meat, potato, onion, sage and beaten eggs, all seasoned to taste and spread in the baking tin. Cover with the creamed potatoes of soft texture, mark with a fork and brush with melted margarine. Bake at 375 deg F or gas mark 5, for 30 minutes.

Hamburgers (to serve 50 4-oz portions)

Ingredients, 4 lb cooked, mashed potato
2 lb minced raw beef
4 lb cooked, minced beef
6 eggs
2 lb chopped, fried onion
2 oz chopped sage
salt and pepper

Mix all ingredients thoroughly, seasoned to taste. Form into rounds, coat with egg wash and breadcrumbs. Fry in deep fat. Serve with a garnish of fried onion rings.

Savoury Cutlets (to serve 50 4-oz portions)

Ingredients, 4 lb cooked, mashed potato
4 lb cooked, minced beef
4 lb cooked, minced ham
1 lb chopped, fried onion
6 eggs
salt and pepper

Mix all ingredients thoroughly, seasoned to taste. Form into cutlets, coat with egg wash and breadcrumbs. Fry in deep fat.

The potato is too often thought of as "just another vegetable", but it is versatile and can be used as a substitute for flour in many kinds of cake and scone recipes. The recipes given here show how the caterer could use potatoes as an economical and original basis for teacakes, children's parties and other occasions.

Chocolate Gateau (to serve 30)

Ingredients, 1½ lb cooked, sieved potato
1½ lb butter or margarine
1½ lb plain slab chocolate
1½ lb broken sweet biscuits
6 eggs
3 teaspoons liquid coffee
6 oz sugar
vanilla essence
1½ lb almond paste

Grease three 1-lb loaf tins well. Melt chocolate and butter separately. Beat eggs and sugar together, then stir in the butter. Stir this mixture into the chocolate and then add coffee and vanilla. Stir in potato and biscuits. Pour into tins and leave until firm, 1 hour in a refrigerator. Turn out the gateaux and cover tops and sides with almond paste. Mark the top with criss-cross lines and decorate, if liked, with glace cherries and angelica.

Mixed Fruit "Goody" (to serve 30)

Ingredients, 3 lb cooked, sieved potatoes
3 lb self-raising flour
1½ lb mixed dried fruit
18 oz melted margarine or shredded suet
12 oz sugar or syrup
nutmeg
milk to mix

Mix all ingredients together, with milk to make a soft mixture. Pour into greased tins, bake at gas mark 5 or 375 deg.

for 1½ hours. Serve sprinkled with castor or icing sugar, hot or cold.

Almond Potato Tart (to serve 30)

Flan Pastry
Ingredients, 1 lb plain flour
1 dessertspoon sugar
9-10 oz fat
4 egg yolks and water to mix

Rub fat into flour and sugar. Mix with egg yolks and water. Line one baking tin or individual ones.

Filling, 1½ lb cooked, sieved potato
12 oz caster sugar
4 oz margarine or butter
4 oz self-raising flour
4 beaten eggs
almond essence
two 16-oz cans drained sliced peaches

Cover the pastry with most of the peach slices. Mix together the warmed potato, butter, sugar, flour, eggs and almond essence to taste. Spread this mixture in the pastry case. Bake at 375 deg F or gas mark 5 for 45-50 minutes.

Meringue. Whisk egg whites shiffly and fold in sugar. Cover the cooked flan with meringue and bake at 275 deg F, or gas mark 2, for 15 minutes.

Decorate with remaining peach slices.

PEST CONTROL

One of the oldest established pest control companies in the United Kingdom, incorporated in February 1924, Fumigation Services Ltd, of Barking, Essex, and Ossett, Yorks, now become the Fumigation Division of the associate company, Disinfestation Ltd. Fumigation Services Ltd joined the British Ratin group (now the Rentokil group) in January 1958. The Fumigation Division of Disinfestation Ltd will continue to be engaged in fumigation and other measures for pest control of flour mills, food processing plants, grain stores, ships, lighters, warehouses and foodstuff commodities under sheets or in chamber. The Division also acts as consultant to these trades on pest problems, and in addition make and export fumigation plant and equipment to many overseas countries. Mr T. L. Knight, director since 1931, has been with the company since its incorporation, and now becomes a director of Disinfestation Ltd, in charge of the Fumigation Division. At 16 Dover Street, London W1, the group sponsors a Pest Advisory Centre where free advice, lectures and film shows are given. The permanent exhibition is open daily with technical advisers in attendance.

"Three Cooks" Ltd, of Reading, have been honoured by the grant of a Royal Warrant of Appointment as Grocers to Her Majesty Queen Elizabeth II.

The size of the cabins in the 22,000-grt Shaw Savill passenger liner *Northern Star*, now building at Vickers Naval Yard, Newcastle upon Tyne, will bear comparison with those in any vessel of her class afloat. A minimum area for each type of cabin has been agreed with and will be carried out by the builders. For example the floor area of a single-berth cabin will measure 65 sq ft or over, a two-bedstead cabin 120 sq ft, and a six-berth cabin 150 sq ft.

Holsten Distributors Ltd, the English distributors of Holsten Pilsner Lager and Diat Pils beer for diabetics, have opened a new branch in Edinburgh. The warehouse and offices are situated at the Leith Docks (telephone: Edinburgh COR 5314).

A display of British stainless steel products—ranging from cuff-links to cookers—is on show at the Mayfairia Rooms, Marble Arch, London W1, from March 8 to May 4. Exhibits displays and photographs highlight the largest-scale technical advances made by the stainless steel industry during the last few years. Among the items featured will be the use of stainless steel for building and architecture, domestic ware of all kinds, catering equipment, brewery and dairy equipment, sports gear, surgical instruments and nuclear installations. The exhibition is sponsored by the Stainless Steel Manufacturers' Association of Great Britain and over 200 fabricating and manufacturing companies have lent products for display in the design, fabrication and application of stainless steel.

THE SHIP'S MENU

SOME EXAMPLES OF MENUS RECENTLY PRESENTED

Italia Line

A selection of menus presented in the first-class restaurant of the Italia Line flagship "Leonardo da Vinci" on voyage from Genoa to Gibraltar in January

Gala Dinner

— 0 0 0 —

Crab meat cocktail
Orange or pineapple juice Orange au Maraschino

Caviar of Beluga Malossol
Blinis - Melted butter - Sour cream
Raw ham of Langhirano

Green turtle soup with Sherry Glutinated pastina in broth
Cold Vichyssoise Beef essence in cup
Veloutine of champignons "Raviolini" in capon broth

Trout of Brembo in rosé jelly
Lobster medallions Newbourg, wild rice

Chicken suprême in frying butter
Creamed spinach

Rissolées of truffled fonduta cheese, Valdôtaine

To order:
Fillet of beef, Choron Veal cutlet, Florentine
Broiled tomatoes French fried potatoes

—
Champagne Punch
—

Pheasant from San Rossore en casserole, Strasbourgeoise
Hearts of artichoke in butter

Prime rib of beef, horseradish sauce, Yorkshire pudding

COLD BUFFET

Baked lamb, mint sauce Caprice salad Hare patty
Roast poularde Roast leg of veal Roast beef, rare
Roast turkey, Cumberland sauce Virginia ham
Truffled chicken galantine Wild roebuck terrine
Ox-tongue Cinderella Eggs in jelly, Gipsy style
Partridge and quails in basket Duckling à l'orange
Saddle of pork, apple sauce

SALADS

String bean Tomato Jockey Club Lettuce

"Amicizia" Cake

Russian Charlotte Sicilian Cassata
Lemon sherbet Vanilla ice cream Friandises

Basket of fresh fruits

Moka

Gran Spumante Antinori Secco

Suggestion

Caviar of Beluga Malossol
Blinis - Melted butter - Sour cream
Beef essence in cup
Lobster medallions, Newbourg
Veal cutlet, Florentine
Sicilian "cassata"
Friandises
Gran Spumante
Antinori Secco

FIRST CLASS

Monday,
January 30, 1961

"LEONARDO DA VINCI"

Comandante
Cap. Sup. ARMANDO PINELLI

Italia Line (continued)

Luncheon

JUICES

Orange Tomato Pineapple Prune

HORS D'OEUVRE

Parma raw ham and cooked Modena ham Parisian beef salad
 Snapper mayonnaise Roll-mops with lemon Anchovy fillets in oil
 Milan salami Portuguese sardines Fennels, Greek style
 Sicilian tunafish Artichokes in olive oil
 Nelusko tomatoes Eggs Tartare Green and ripe olives
 Palmitos vinaigrette Comacchio eel marinated

SOUPS

Hot or cold consommé in cup Jellied Madrilène
 Beef broth with pastina or semolino Consommé Celestine
 Soup Julienne

FARINACEOUS (Spaghetti and rice dishes)

Vermicelli, sauces: mushroom, tomato, tunafish, anchovy, Scarpara
 Plain rice "Maltagliati" Bolognese

EGGS

Poached with cream Artichoke omelet Shirred with tomatoes
 Fine herbes omelet Scrambled au bacon

FISH

Slice of gilt-head, Menagère
 Boiled turbot, Andalouse sauce, steamed potatoes

ENTREES

Beef tenderloin, Pizzaiola Lamb chop with mushrooms
 Veal scaloppine, Milanaise Assorted fresh vegetables with eggs

Special Italian Dishes (Lombardia)

* Risotto à la Certosina

** Boiled musclet of veal with vegetables

GRILL TO ORDER (From 10 to 20 minutes)

Calf's liver, straw potatoes Spring chicken with tomato
 Mutton chops, Macaire Kidney à la Diable

VEGETABLES

Carrots fine herbes Cauliflower plain Swiss-chard, Oriental

POTATOES

Plain Mashed Chip Sautéed Baked

COLD BUFFET

Stuffed breast of veal, Genoese Roast turkey
 Veal in tunafish sauce Truffled chicken galantine
 Game patty Ox-tongue Baked Spring chicken
 Contrefillet of beef rare Mortadella of Bologna
 Red mullets, sour sauce Smoked eel
 Salmon salad Saddle of lamb
 Suckling pig, apple sauce Crab aspic

SAUCES

Mayonnaise Apple Tartare French dressing

SALADS

Potato Green Cabbage Tomato Mixed
 Dressings:
 French Russian Roquefort Thousand Island

CHEESES

Bel Paese Provolone Superzola Emmenthal
 Holland Camembert Robiola Stracchino
 Certosino Brie

DESSERTS

Gâteau Excelsior Custard lemon pudding
 Neapolitan cake Assorted pastry

ICES

Vanilla or walnut ice cream Orange or pineapple sherbert
 Sorrentine cup Mixed

FRUITS IN SYRUP

Peaches Apricots Pineapple Pears

STEWED FRUITS

Prunes Apples

DRIED FRUITS

Walnuts Almonds Figs Malaga raisins

FRESH FRUITS

Oranges Pears Apples Tangerines Bananas

BEVERAGES

Italian and American coffee Sanka Nescafé
 Hag Lipton Tea Camomile Milk Mint
 Orange Pekoe Linden-tea Cream milk Buttermilk

After-Dinner Mints

Passengers on special Diet are invited to make known their requirements to the Maître d'Hôtel.

Chef's Suggestion

FIRST CLASS

Saturday,
 January 28, 1961

Tomato juice
 Risotto à la Certosina
 Veal scaloppine, Milanaise
 Gâteau Excelsior
 Fresh fruits
 Demi Tasse

* Risotto à la Certosina

Rice dressed with butter,
 shrimp tails, fillet of fish,
 mushrooms and green peas.

** Boiled musclet of veal with vegetables

Veal neck musclet boiled
 with assorted vegetables.

Dinner

COCKTAILS

Tomato Orange Sauerkraut
Chilled fruit cup

HORS D'OEUVRE

Cooked and raw Parma ham Cremona salami
Mushrooms in oil Hearts of palm, fine herbs Crab mayonnaise
Celery with Roquefort Bismarck herrings Eggs Rosetta
Tomatoes Parisienne Tunafish in olive oil Red mullets terrine
Greek green olives Rolled anchovy fillet with ketchup
Salted Danish gherkins Turkey salad

SOUPS

Hot or cold consommé in cup Jellied Madrilène
Rice or fidelini in broth Spinach cream soup
Genoese minestrone "Stracciatella Romana"

FARINACEOUS

(Spaghetti and rice dishes)

"Vermicelli" with meat gravy, tomato or mushroom sauce
Plain rice

FISH

Slice of snapper, Leghorn style Sole Meunière, noisette potatoes

ENTREES

Veal cutlet sautéed, Portuguese Sweetbread medallions, Forestière
Assorted fresh vegetables with poached egg
Rack of mutton, parsley

GRILL TO ORDER (From 15 to 20 minutes)

Sirloin steak, fried potatoes Brochettes Chasseur
Chicken livers on toast and tomato Fresh sausage with rice pilaw

ROASTS

Veal rognonade, glazed potatoes
Spring chicken on the skewer

VEGETABLES

Stewed peppers Spinach à l'Italienne Stewed white cabbage in butter

POTATOES

Mashed Steamed Chip Pont Neuf

COLD BUFFET

Game patty Zampone Emilienne Eggs in jelly
Salted beef, horseradish Roast chicken
Capon galantine with truffles
Virginia ham Mottadella of Bologna
Veal in tunafish sauce with capers Roast prime ribs of beef
Squids in terrine Turkey, cranberry sauce Ox-tongue in jelly
Leg of lamb, mint sauce Caprice salad

SAUCES

Mayonnaise Apple Cranberry Remoulade

SALADS

Beetroot Tomato Potato Green Cole-slaw
Dressings:
French Russian Roquefort Thousand Island

CHEESES

Fior d'Alpe Caciocavallo Roquefort Robiolina Cottage
Pastorella Emmenthal Cremini Holland Taleggio

DESSERTS

Roman cake Vacherin with whipped cream
Pudding soufflé Countess, apricot sauce French pastry

ICES

Chocolate or vanilla ice cream Raspberry or pear sherbet
Walkiria bombe Mixed

FRUITS IN SYRUP

Peaches Apricots Pineapple Pears

STEWED FRUITS

Prunes Apples

DRIED FRUITS

Walnuts Almonds Figs Malaga raisins

FRESH FRUITS

Melon Pears Apples Tangerines Oranges

BEVERAGES

Italian and American coffee Sanka Nescafé Hag Lipton Tea
Camomile Milk Mint Orange Pekoe Linden-tea
Cream milk Buttermilk

After-Dinner Mints

Passengers on special Diet are invited to make known their requirements
to the Maître d'Hôtel

Chef's Suggestion

FIRST CLASS

Saturday,
January 28, 1961

Chilled fruit cup
Spinach cream soup
Slice of snapper, Leghorn style
Spring chicken on the skewer
Roman cake
Fresh fruits
Demi Tasse

May We Suggest . . .

White Wine

Gran Caruso Ravello \$1.00

Red Wine

Barbaresco Mirafiori \$0.90

Sparkling Wine

Riccadonna Brut 1952 \$3.00

Italia Line (continued)

Luncheon

JUICES

Orange Tomato Pineapple Prune

HORS D'OEUVRE

Raw ham of Langhirano, Cooked ham of Modena Julienne of celery
 Fillets of anchovies with Ketchup
 Portuguese sardines Ligurian olives
 Smoked herrings in oil Milan salami
 Salmon with capers Tunafish in oil Fish mayonnaise
 Cremona mustard Bismarck herrings with lemon
 Salad Parisienne Spring onions Mushrooms Valdotaïne

SOUPS

Hot or cold consommé in cup Jellied Madrilène
 Beef broth with pastina or semolina Consommé Printanière
 Mountaineer soup with honeycomb tripe

FARINACEOUS (Spaghetti and rice dishes)

Rigatoni, sauces: mushroom, Bolognese, Amatriciana or tunafish
 Plain rice Vermicelli à la Scarpara

EGGS

Scrambled, Turkish style Peasant omelet
 Poached with cream Fried with bacon Shirred with sausage

FISH

Broiled stone bass, potatoes persillé
 Fillets of striped bass browned in butter

ENTREES

Braised pigeon en compote à l'Anglaise Pork cutlet à la Sassi
 Plain fresh vegetables with poached eggs Rabbit Cacciatora

Special Italian Dishes (Tuscany)

* Home-made "pappardelle" with duck sauce

** Spring chicken à la Diable

GRILL TO ORDER (From 15 to 20 minutes)

Sirloin of beef, French potatoes Mutton cutlets with sauerkraut
 Veal brochettes and bacon Sausage and tomatoes

VEGETABLES

"Caponetti" à l'anchois Stewed Swiss-chard Plain cauliflower

POTATOES

Plain Mashed Chip Sautéed Baked

COLD BUFFET

Turkey from the skewer Russian salad
 Baked suckling pig, apple sauce
 Roast loin of veal, tunafish sauce Ox-tongue
 Salted beef, horseradish Spring chicken Prime rib of beef, rare
 Bologna mortadella Galantine of capon
 Red mullets in escabèche Vineyard quails Jellied eggs
 Sugared ham Terrine of game, St. Hubert

SAUCES

Mayonnaise Apple Cranberry Tartar

SALADS

Potato Lettuce String beans Tomato Cole-slaw
 Dressings:
 French Russian Roquefort Thousand Island

CHEESES

Bel Paese Provolone Superzola Emmenthal Holland
 Camambert Robiola Stracchino Certosino Brie

DESSERTS

Tartar cake "Délise Savoyarde"
 Rice pudding Italian pastry

ICES

Vanilla or almond ice cream Grapefruit or plum sherbet
 Sundae peaches Mixed

FRUITS IN SYRUP

Peaches Apricots Pineapple Pears

STEWED FRUITS

Prunes Apples

DRIED FRUITS

Walnuts Almonds Figs Malaga raisins

FRESH FRUITS

Oranges Pears Apples Tangerines Bananas

BEVERAGES

Italian and American coffee Sanka Nescafé Hag Lipton Tea
 Camomile Milk Mint Orange Pekoe Linden-tea
 Cream milk Buttermilk

After-Dinner Mints

Passengers on special Diet are invited to make known their requirements to the Maître d'Hôtel

Chef's Suggestion

FIRST CLASS

Sunday,
 January 29, 1961

Raw ham of Langhirano
 Home-made "pappardelle"
 with duck sauce
 Spring chicken à la Diable
 Green salad
 Tartar cake
 Fresh fruits
 Demi Tasse

* Home-made "pappardelle" with duck sauce

Large fresh eggs noodles paste seasoned with duck gravy, shallot, ham, artichoke tips, Parmesan cheese, mushrooms and spices.

** Spring chicken à la Diable

Boneless Spring chicken grilled with olive oil, salt, white pepper, chopped, raw onions and parsley.

Dinner

COCKTAILS

Tomato Sauerkraut Grapefruit
Chilled fruit cup

HORS D'OEUVRE

Cooked Modena ham, Raw Parma ham Marinated fish
Hungarian salami Artichoke of Latina Egg-plants Neapolitan
Tunafish Sicilian style Chicken mayonnaise
Onions in season Smoked eel Patras assorted olives
Filletts of anchovies Peppers in oil
Japanese salad Chow-chow Roll-mops with lemon

SOUPS

Hot or cold consommé in cup Jellied Madrilène
Beef broth with fidelini or rice Veloutine Isaia
Peasant minestrone Consommé with semolino

FARINACEOUS (Spaghetti and rice dishes)

Spaghetti au beurre, Veronese or Neapolitan sauces Boiled rice

FISH

Gilt-head au "court-bouillon", plain potatoes, Tartar sauce
Slice of whiting, Leghornese

ENTREES

Stewed veal with mushrooms Braised beef with green noodles
Fresh vegetable lunch Guinea hen in casserole, Demidoff

GRILL TO ORDER (From 15 to 20 minutes)

Veal cutlet, Pont-Neuf potatoes Calf's liver, Américaine
Veal kidney on toast Sirloin steak with tomatoes

ROASTS

Roast capon, cranberry sauce Tenderloin of beef with bacon

VEGETABLES

Salsifis plain String beans in butter Stewed peppers

POTATOES

Mashed Steamed Chip Pont-Neuf

COLD BUFFET

Virginia ham Smoked salmon in oil Capon galantine
Spring chicken Crab meat salad Roast beef, rare
Stuffed breast of veal Smoked ox-tongue
Rack of pork Turkey from the spit
Calf's brain mousse Eggs, Gypsy style Easter Tart
Baked lamb, mint sauce Red mullets en escabèche

SAUCES

Italian Apple Tartar French dressing

SALADS

Beetroot Tomato Potato Green Havanaise
Dressings:
French Russian Roquefort Thousand Island

CHEESES

Fior d'Alpe Caciocavallo Roquefort Robiolina Cottage
Pastorella Emmenthal Cremini Holland Taleggio

DESSERTS

Turin cake Queen cake Caramel cream French pastry

ICES

Vanilla or Giandula ice cream Gooseberry or cedar sherbet
Iced biscuit, Niçoise Mixed

FRUITS IN SYRUP

Peaches Apricots Pineapple Pears

STEWED FRUITS

Prunes Apples

DRIED FRUITS

Walnuts Almonds Figs Malaga raisins

FRESH FRUITS

Melon Pears Apples Tangerines Oranges

BEVERAGES

Italian and American coffee Sanka Nescafé Hag Lipton Tea
Camomile Milk Mint Orage Pekoe Linden-tea
Cream milk Buttermilk

After-Dinner Mints

Passengers on special Diet are invited to make known their requirements
to the Maître d'Hôtel

Chef's Suggestion

FIRST CLASS

Sunday,

January 29, 1961

Chilled fruit cup

Veloutine Isaia

Braised beef with green noodles

Turin cake

Fresh fruits

Demi Tasse

May We Suggest . . .

White Wine

Chianti Bertolli 1957 \$0.80

Red Wine

Taormina Leonardi \$0.70

Sparkling Wine

Cinzano Ris. Prin. di
Piemonte \$3.00

Italia Line (continued)

Luncheon

JUICES

Orange Tomato Grapefruit Prune

HORS D'OEUVRE

Raw Parma ham—Hungarian cooked ham Tunafish in olive oil
 Stuffed eggs, Diva Roll-mops with lemon
 Tomatoes Monegasque Caprice Salad Danish gherkins
 Squids in escabèche Milan salami Artichokes in oil
 Chicken Julienne, Viseur Giant green olives
 Anchovy fillets with capers Stuffed peppers, Calabrese

SOUPS

Hot or cold consommé in cup Jellied Madrilène
 Semolina in consommé Rice or pastina in beef broth
 White Navy bean soup

FARINACEOUS (Spaghetti and rice dishes)

Egg noodles, mushroom sauce or Amatriciana Plain rice
 Maltagliati with fresh tomatoes or Bolognese sauce

EGGS

Omelette fine herbes Shirred with chicken livers
 Poached on toast Au plat, with bacon Scrambled with peas

FISH

Slice of striped bass, Grenobloise
 Boiled rock bass, Tartare sauce, plain potatoes

ENTREES

Veal escalope à la Parisienne Curry Spring chicken, rice pilaw
 Fricassée of fresh vegetables, poached eggs Irish mutton stew

Special Italian Dishes (Campania)

* Vermicelli with clams
 ** "Mozzarella in carrozza"

GRILL TO ORDER (From 15 to 20 minutes)

Kidney with bacon and tomatoes
 Entrecôte of beef, French fried potatoes
 Sliced ham, Hawaiian style Pork chop with peppers

VEGETABLES

Plain cauliflower Oyster-plants à l'anchois Braised Swiss-chards

POTATOES

Plain Mashed Chip Sautéed Baked

COLD BUFFET

Short loin of beef, rare Turkey, cranberry sauce
 Modena zampone Young gen gelantine, Alba style
 Veal in tunafish sauce Chicken from the skewer
 "Cima" Genoese Pâté of game Pigeon in escabèche
 Rack of pork Cuban rissoles Marinated red mullets
 Leg of veal Soft crab mayonnaise

SAUCES

Mayonnaise Apple Cranberry Tartare

SALADS

Florida Lettuce Tomato Potato Cabbage
 Dressings:
 French Russian Roquefort Thousand Island

CHEESES

Bel Paese Provolone Superzola Emmenthal
 Holland Camembert Robiola Stracchino
 Certosino Brie

DESSERTS

Parthenopean "pastiera" Margaret Tart
 "Involtini all'Italiana" Turin pastry

ICES

Anisette and vanilla ice cream Apricot or apple sherbert
 Favorite Cup Mixed

FRUITS IN SYRUP

Peaches Apricots Pineapple Pears

STEWED FRUITS

Prunes Apples

DRIED FRUITS

Walnuts Almonds Figs Malaga raisins

FRESH FRUITS

Oranges Pears Apples Tangerines Bananas

BEVERAGES

Italian and American coffee Sanka Nescafé
 Hag Lipton Tea Camomile Milk Mint
 Orange Pekoe Linden-tea Cream milk Buttermilk

After-Dinner Mints

Passengers on special Diet are invited to make known their requirements to the Maître d'Hôtel.

Chef's Suggestion

FIRST CLASS

Monday,
 January 30, 1961

Raw Parma ham
 Hungarian cooked ham
 Vermicelli with clams
 Veal escalope à la Parisienne
 Braised Swiss-chards
 Parthenopean "pastiera"
 Fresh fruits
 Demi Tasse

* Vermicelli with clams

Sautéed spaghetti in casserole with fresh tomato sauce, parsley, clams, mussels and olive oil.

** "Mozzarella in carrozza"

Sliced "mozzarella" cheese between slices of bread, moistened in milk, beaten eggs and fried in olive oil.

CATERING EQUIPMENT

Chrysler Airtemp

A WIDE range of Chrysler Airtemp refrigeration and air-conditioning equipment particularly suitable for use in the hotel and catering trade, and now available in Britain for the first time, was featured at the Northern Hotel & Catering Exhibition, Blackpool, including the 1 hp Chrysler Airtemp unit. It is designed to operate on the reverse cycle principle, which means that it is capable of either heating or cooling, depending on the requirement of the user. The reverse cycle principle is popular not only because of its dual function but also because the heat output which it provides is some 25 per cent more than the electrical input. The method of operation is based upon the use of the heat that is normally dissipated to the atmosphere through the condenser. This heat is brought into the operative space through filters, thereby enabling the unit to serve a dual purpose. There is a comprehensive selection of Chrysler Airtemp room units ranging from 1 to 2½ hp.

The Key to Entirely Automated Washing

Hoover Limited has introduced the Keymatic, a fully automated washing machine of unique design. The key—or keyplate—to this machine is in every sense of the word a key to the appliance. Clearly marked on the bevelled edges of this 3¼ in square plastic moulded Keyplate are eight available washing programmes, i.e.: "whites", "coloured", "drip dry fabrics", "blankets", "delicate fabrics", and "woollens" as well as "pre-wash or rinse" and "spin dry" (for extra or separate soaking or spinning cycles, if desired). Having connected the machine and loaded the clothes, the operator merely switches on the the selected washing programme uppermost in the normal reading position. She then presses the Keyplate home and the Keymatic will carry out the complete automated cycle of appropriate washing operations, without supervision.

The Keymatic will fill the tub automatically from the taps, selecting either hot, cold or a mixture of hot and cold water, heat the water if the tap water is not hot enough, choose the type of washing action, wash for the correct length of time for the fabric, give three rinses of gradually reducing temperature, down to a cold rinse which is ideal for conditioning fabrics, and then finish with a spin-dry period. The programmes, "pre-wash or rinse" and "spin dry" are included as extras to the washing cycles for the various fabrics so that they may be separately carried out if desired; thus for people who like to soak some clothes, the "pre-wash or rinse" setting will carry this out in a few minutes and the odd small items which people like to wash out by hand can be spun dry by selecting "spin-dry." A visual indicator consisting of a white line on a red background shows the progress of the machine through its selected cycle.

The Keymatic takes 8 lb dry weight of washing and, using the hot water supply, the whole completely automatic cycle can be completed in less than half an hour, the time of course varying according to the temperature of the hot water supply and the nature of the fabric.

The machine uses a completely new dual-action system of washing, combining a rotating drum with a Hoover pulsator placed within it. The tumbling action of the drum is used by itself for washing the "delicate fabrics", "woollens", "blankets" and the "pre-wash or rinse" programmes. In all other washing programmes where a more vigorous wash is necessary to remove more deeply seated dirt, the Hoover "boiling action" pulsator is used in combination with the drum. For washing, the perforated inner drum rotates slowly in a clockwise direction, and when demanded by the washing programme the pulsator rotates on the same axis at a higher speed in the opposite direction. The inner drum is contained within a stationary outer tub which holds the water. The axis of the tub assembly is inclined at an angle which not only allows easy loading of the machine, but helps to secure total immersion of the clothes in the washing solution. The price is 115 guineas, including purchase tax.

Light Vacuum Cleaner

The Hooverette vacuum cleaner is completely new in design, extremely versatile and with two main applications—as an upright cleaner and as a hand cleaner slung from the shoulder by an easily clipped-on carrying strap. In use as an upright cleaner, the extension tube and curved handle section are fitted at the upper (motor) end of the cleaner, while a carpet and floor nozzle is fitted at the lower end. In the carpet and floor nozzle, a low height, streamlined casing houses a full length, polythene backed brush, which can be operated in a "float" position for the normal carpet cleaning function or locked into a low position by foot control when cleaning hard surfaces. In this housing there is also a flexible plastic "litter picker", which disturbs the litter and makes it easy for the brushes and suction to deal with it. Plastic rollers in front of the nozzle provide for smooth movement. A buffing pad attachment can be clipped to the floor nozzle for cleaning highly polished floors. The machine is easy to store, upright, by the hook provided and may, therefore, be left ready for use. It is light in weight (basic unit 6½ lb). It is powerful, compact and has no long trailing hose.

As a hand unit the basic cleaner unit is simply slung from the shoulder by the carrying strap provided, giving finger-tip control through the switch in the handle. The extension tube, Hooverflex hose, all purpose brush, and crevice nozzle used with the cleaner provide a complete home cleaning service for walls, curtains, fabrics, stairs, furniture—every dust harbouring place. And the machine is ideal for car cleaning as well. The Hooverette is styled in two shades of porcelain blue with latches of pearl white and slide switch in red. The carpet and



Hooverette in upright position



The Hoover Keymatic



Hooverette as a hand cleaner

floor nozzle is in porcelain blue and all other tools are pearl white. Tube fittings are anodised blue. The price is 13 guineas, including purchase tax.

Scrubbing and Drying Machine

A completely redesigned version of the famous Cimex Eagle scrubbing and drying machine combines superb styling with advanced mechanical design to produce good looks, a high degree of efficiency and remarkable ease of operation. Its specification is as follows: Well established and tested end-drive unit with $\frac{2}{3}$ rd hp motor driving the brushes and incorporating guide lights in the new fibre-glass motor cover. Whole head tilts backwards for the changing of brushes. Main tanks, for clean water and dirty water, capacity approximately 10 gallons, constructed in non-corrosive fibreglass. Clean water tank easily filled from a bucket, and dirty water tank automatically pumped out. Suction by $\frac{3}{4}$ hp AEI slow running motor. The whole machine easily manoeuvrable, being self-propelled with independent differential action on the large 9in diameter main wheels running in sealed ball race bearings, and large heavy duty 5in diameter double ball race castor wheels all in white rubber. Handle controls reduced to a minimum and easy to operate. Brush mechanism lifted off the floor by pressing downwards on the mainhandle. Switchbox made in rigid pvc for extra safety, and the machine can be double insulated if required.

The machine wheels are driven by a belt through a reduction gearbox to the half-shafts on which the wheels are mounted. This arrangement enables the operator to stop and start the machine by means of a lever on the handle and to obtain maximum manoeuvrability. The front unit, with three counter-rotating brushes, scrubs at a rate of more than 4,000 sq ft an hour. Clean and dirty water tanks are formed by the fibreglass body of the machine. The suction unit is mounted at the rear and a fishtail provides a squeegee action which ensures that all excess water is picked up. The new Eagle moves at a constant walking pace and turns with remarkable ease.

New Mallard Rapide

Another new Cimex machine is a high-speed version of the Mallard scrubbing and polishing unit. A $\frac{1}{2}$ -hp split-phase induction motor gives the machine a brush speed of over 600 rpm, thus increasing the speed of scrubbing or polishing by as much as twice over existing machines. It is faster, more powerful and more efficient—because of its increased brush area. A quick release adjustment enables the operator to grasp the handle at any angle so that he or she can work the unit with the utmost comfort and ease. A die-cast aluminium tank prevents corrosion. It takes the place of both the Mallard and Rapide in the existing Cimex range.

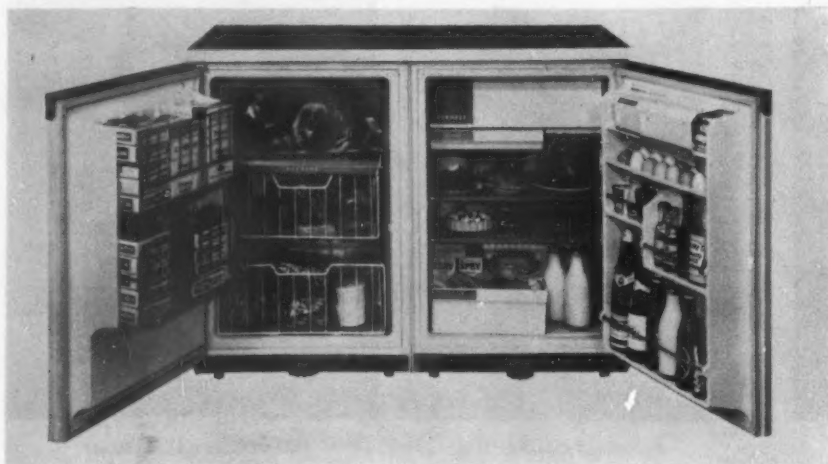
Refrigerator and Home Freezer

An entirely new British concept in refrigerator and freezer design is shown in the latest models marketed by Kenwood. This company has now produced a free standing table-top

height refrigerator together with a home freezer of similar design. These may be bought separately or together and when used in conjunction with each other, apart, side by side, or one on top of the other, form a unique combined refrigerator and freezer unit. The overall height of each unit is 36in, including the optional working surface table-top. Without the table-top, the overall height is 34in. The units can be placed together and covered by a single table-top, or a separate table-top on each piece. The height enables them to be conveniently stored beneath a draining board or any other 36-in kitchen working surface, and all models are available in white. Both refrigerator and freezer are mounted on two fixed rollers at the back and two adjustable feet at the front. A third roller, which is cantilevered from the back, is arranged centrally at the front between the adjustable feet. This can be lowered to lift the refrigerator off its feet for ease of movement. The doors can be placed on any side of the units and open within the width of the cabinet—another important feature where kitchen working space is cramped. They are prevented from swinging beyond 110 degrees by a special stop device; they need no latches and are kept closed by means of a magnetic seal made of a pvc compound containing magnetised iron oxide. The door seal gaskets are concealed by an arrangement which brings the front edges of the cabinet forward to form a recess into which the gasket fits, so there is only a very small gap between the door and cabinets. The price of the refrigerator is 67 guineas without table-top and 70 guineas with table-top. The home freezer costs 73 guineas without table-top and 76 guineas with table-top.

The Kenwood HR52A refrigerator has two full-width shelves, a third half-shelf and a large vegetable container on the floor with shelf space alongside for up to five pints of milk. The inside of the door will hold dairy produce and tall bottles. In addition the "dairy bar" at the top has two sliding doors to enable butter and fats to be readily removed. Two plastic-coated wire shelves are fitted. They are of full width and full depth. An important item is the crisper for crisping salads. An additional half-shelf is formed by the crisper cover. The floor next to the crisper is also shelf space for storing five pint milk bottles. The frozen food storage capacity is 0.63 cu ft, and the ice-making capacity 30 cubes per tray per freezing. The packaged frozen food capacity (at 30 lb per cu ft) is 18½ lb. The net shelf area including the door is 9.42 sq ft. Four basic models are available now, a right-hand hinged door model, operating without a transformer on single phase electric power supply of 210/250 volts, 50 c.p.s. compressor; or 115 volts, 60 c.p.s. compressor and a left-hand hinged door model with a choice of the same power ratios.

The Kenwood Home Freezer HF42A may have doors either on the right or on the left and operates at the same voltages as the refrigerator. Unlike most domestic freezers the door opens sideways like a cupboard. The freezer will hold well over 1 cwt of frozen food, sufficient for a family of five for three months. The door of the freezer opens within the width of the cabinet enabling it to be placed close to a wall or to be fitted between existing furniture. In these positions and with the door opened at 90 degrees the produce baskets can be easily removed and a stop prevents the door from opening beyond 110 degrees. The interior of the door is fitted with two plastic-coated wire dispensers so that packets of commercially frozen food are easily accessible at all times and can be safely stored. These dispensers are removable for cleaning. Like the refrigerator the freezer has an optional table-top, single size to fit the top of the freezer, or double size to fit across both refrigerator and freezer and provide ample surface working space.



The new Kenwood refrigerator and freezer type HR52A

Insist on
Whitbread beers-
and make it
a pleasure trip!



All three beers are available in 10 and 12 oz. cans, and Mackeson and Pale Ale only in reputed pint bottles. They are obtainable from Ships' Stores Agents throughout the United Kingdom.

All enquiries to:

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Whitbread & Co. Ltd.,
27 Britannia Street,
London, W.C.1.

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WD1902

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House 6653 for Liverpool, Southampton, London and South Western Ports
For other areas please apply to: Ships Stores Dept. SCS
BENJAMIN SHAW & SONS LIMITED, WILLOW LANE, HUDDERSFIELD

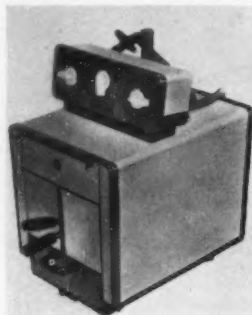
Automatic Grilling and Ejection

The new Valentine ejection grill is of particular value to all caterers who operate portion control. Where it is the practice to cook steaks of an approximately predetermined weight and size, the setting for the heat and time can be pre-calculated on the machine and, by simple setting of two dials, anybody can produce perfectly cooked steaks automatically and continuously. The Valentine ejection-grill provides for fully automatic control of heat and time. The grilling area is ejected when the food is perfectly cooked. The machine is speedy—for example—a $\frac{1}{2}$ in thick steak can be medium cooked in $1\frac{1}{2}$ minutes. The top grid is automatically adjusted to the thickness of the food, both sides of which are cooked together. Operational safety is assured by two thermostats which enable the grill always to remain with the heating switched on ready for instant use, thus orders can be cooked immediately they are received, with no irritating waste of time waiting for warming up. The height of the upper heating elements is adjustable. All switches and dials are grouped in an eye-level control panel. The equipment is fitted with a large easily emptied fat receptacle. The size is width 14in, height 25in, depth closed 25in, open 40in, grilling area $10\frac{1}{2}$ in by 13in, and total loading is 6.36 kW. Grills can be supplied for single or 3-phase operation. Full details are obtainable from Valentine Equipment Ltd, 185 Kings Road, Reading, Berkshire.

Automatic Dishwashing Machine

In introducing the 'New Minor' dishwashing machine, Dawson Bros. Ltd are offering the small-scale caterer an automatic unit incorporating many of the features of their larger machines, such as an automatically timed and controlled treatment, safety cut-outs, counterbalanced doors, in-built wash tank heating, and all of this for a very modest initial cost and really low running costs. The New Minor will wash up for up to 125 meals per hour or 1,250 pieces of crockery and cutlery per hour.

It has been expertly designed to meet the needs of the user and is built to the same high engineering standards as all the machines in the Dawson Deluge range of dishwashers. Specially important to the busy catering establishment is the robust construction designed to withstand heavy duty and long hours. Being made from a high quality stainless steel, there is none of the risk of chipping common to machines painted or enamelled. A simple wipe, and the surface is like new. The New Minor is designed to operate with tabling at the entry and exit sides and this tabling which is extra to the cost of the machine can be supplied as two short lengths as shown in the



Valentine ejection grill

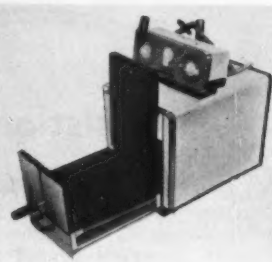
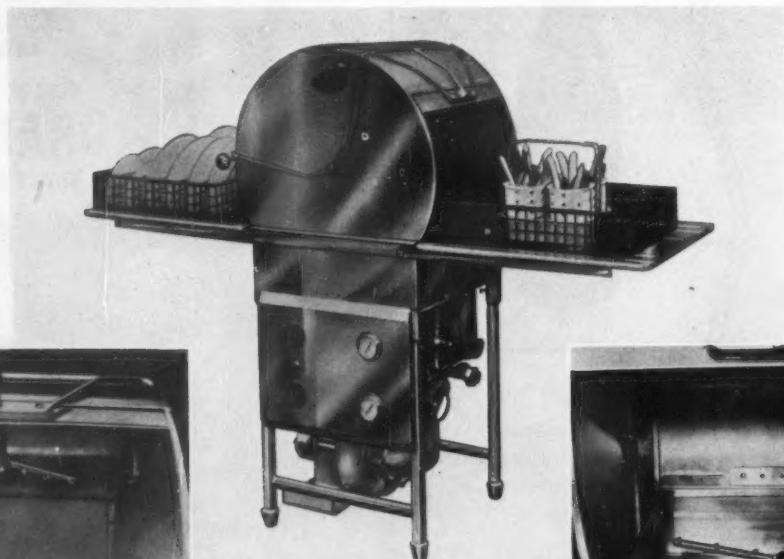


illustration or as a complete installation tailored to suit individual requirements.

Operation is simple. The rack of tableware is inserted into the machine, the counterbalanced doors are closed and the control switch is turned on. A warning light comes on and for 45 seconds the tableware is subjected to a powerful jetted detergent washing treatment at 145 deg F, delivered by a revolving arm positioned below the rack. This is followed automatically by a 15-seconds scalding rinse with fresh water at 180/190 deg F, delivered by two revolving jetting arms, one above the rack and one below. In addition to removing every trace of detergent solution, this rinse leaves the tableware hot for self-drying. On the completion of the rinse, the warning light goes out and the rack is ejected on to the table at the exit side by the next rack of soiled tableware as it is pushed into the machine. The treatment is automatically controlled by a timer operating in conjunction with a solenoid valve.

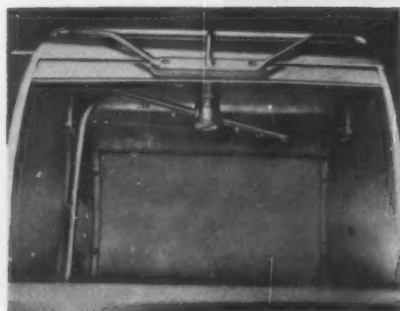
The machine requires a water supply at 180/190 deg F, and if this is not available a steam or electric calorifier or gas boiler can be supplied for the purpose by Dawson Bros. Ltd. This supply serves two purposes; filling the wash tank through a hand-operated valve at the start of each washing-up period and supplying the scalding rinse through the solenoid valve during each treatment cycle. The water in the wash tank is replenished and refreshed during each operation by the entry of the rinse water, which also causes surface scum to overflow to waste.

The wash tank is fitted with a 1-kW electric heating element with safety cut-out and thermostat which maintain the wash



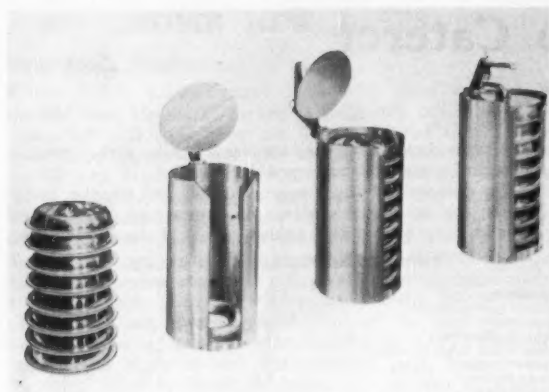
Below: the treatment compartment, showing upper revolving rinse arm

Below: Revolving wash arm and lower revolving rinse arm in the treatment compartment



The New Minor Dawson dishwashing machine





Portisken Food-on-Plate Carriers

water at the correct temperature of 145 deg F. The power demands for this are modest in view of the temperature of the rinse water entering the tank during each operation. The safety cut-out breaks the circuit should the heater be switched on when the wash tank is empty. A removable filter tray is fitted which prevents scraps entering the wash tank as the water falls back during the washing operation, thus avoiding possible clogging of the wash pump.

With the machine are supplied two special 18in by 18in racks, one for plates and one for cups. A retaining frame is supplied with the cup rack. For cutlery a vertical pocket type container is supplied. If required, special plastic cutlery containers complete with a stainless steel holding frame can be supplied as an extra—this special type is shown in the illustration. The New Minor is simple to install and requires only three connections, electricity, hot water and drain. It is a remarkably compact machine, being only 20in wide and 20in back to front, and 4ft 2in high. The working height is 2ft 7½in.

Ice Cream Unit

Tortorelli refrigerated display equipment, introduced into Britain by Dollar-Rae Ltd, Eglinton Street, Glasgow, includes a new type ice cream unit suitable for small quantity production of different types. The self-contained Zerostand cabinet has a stainless steel production section on top under a hermetically closed glass bell, which gives visual inspection of the rotating mixing arm and the quality of the mix. The electrically driven unit can be either mounted on a tubular frame or, where appearance is important, within a cabinet unit, linking up with the decorative holding counters which are also a feature. These take a variety of ice creams and flavours from the smaller ice cream making machine and give visual display of these confections in stainless steel trays under glass with an upper shelf carrying *gateaux*. The whole display unit is covered at the rear by a glass or plastic flap, ensuring absolute cleanliness. Dollar-Rae is importing a wide variety of types and will distribute throughout the United Kingdom.

Crypto Food Slicer

A new electric food slicer, Crypto S5, produced by Crypto Limited, a company in the Metal Industries group, is equipped with a "last slice" device which ensures even cutting down to the last slice. This gravity-feed machine is designed for the slicing of bacon and hot and cold cooked meats, bread, stoneless fruits and vegetables. The "last slice" device, which runs on nylon bearings, controls and locates the food and eliminates the necessity of hand or spring pressure. A forward-angle hopper provides maximum capacity of the food to be sliced; there is a greatly increased length of cut. The machine incorporates a built-in sharpener, operated by finger-tip control. The hopper carriage is mounted on precision-ground Steel Slide Rods giving complete rigidity while oil reservoir lubrication ensures ease of action. The anodised hopper is rigidly and securely mounted in a keyway. It is easily removable for cleaning as also is the knife centre disc and cover which is recessed flush with the face of the knife. The knife shaft is

driven through a spiral pinion and fibre wheel which provide positive non-slip transmission. The gearbox is grease packed and requires no further lubrication. The dished carbon steel blade, plated, ensure 'edge' slicing without 'smear'. The built-in sharpening device gives precision sharpening for long life precision slicing. Simple finger-tip action operates grinding and honing stones, which can be removed for cleaning or replacement without tools.

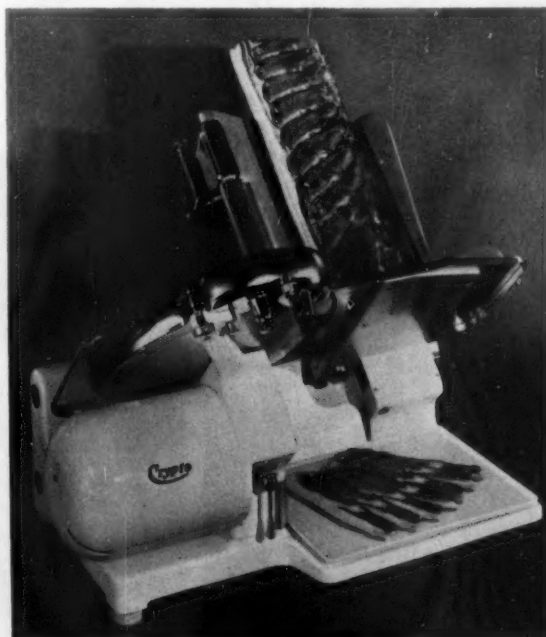
Portisken Food-on-Plate Carrier

The Portisken Food-on-Plate Carrier was originally designed for a major shipping company to enable plates of food to be carried from one part of a ship to another. Regulations stipulate that anything carried on board ship must be accomplished with one hand. The Portisken Carrier, weighing only 5½ lb, enables eight plates of food to be carried easily with one hand. The carrier is ruggedly constructed and consists of a heavy-gauge aluminium canister fitted with a spring-loaded aluminium lid and lifting handle. The canister has an aperture down one side which enables plates of food, separated by aluminium spacing rings, to be lowered into the interior. When all the plates are in the canister, the spring-loaded lid is pivoted into position, automatically locking and clamping the plates securely into the container. The clamping arrangement ensures that the food on the plates is protected from outside contamination and reduces heat losses during transit. Originally designed to meet a specific requirement on board ship, the Portisken Food-on-Plate Carrier has been found equally useful for catering on trains and aircraft and for restaurants, hotels, hospitals and canteens, and in the services.

Powell & Co, of Burry Port, Carmarthenshire, have published a new brochure giving details of their mobile aids for cleaning hospitals, canteens, offices and ships etc.

Hall & Woodhouse Ltd, The Brewery, Blandford Forum, Dorset, now have their Brock Lager available for ship stores in 12-oz cans and 10-oz non-returnable bottles.

Orders have recently been executed by the Buttapatta Co Ltd for Finland, Mexico, New Zealand and China, and regular deliveries are being made to France, Italy, Portugal, Switzerland and Belgium. British users include Orient Line, Royal Mail Lines and Clan Line.



New Crypto food slicer

Eggs for the Caterer

IV—SALADS

THE British Egg Marketing Board has published an illustrated book entitled *Eggs for the Caterer*, by Henry Smith (price 15s). We publish here the fourth of a series of abstracts from this valuable publication, which we think may be of special interest to our readers.

Easy to prepare egg salads and egg mayonnaise dishes for summer trade yield handsome profits. The cooking of hard-boiled eggs is easy and inexpensive in space, time and use of utensils. With eggs so easy to portion-control, cost and cook, what could be easier, or more attractive in custom continuation, than to serve them with a simple crisp salad that also requires so little in space, time and utensils to prepare? Such tasty and eye-appealing dishes do not require the services of highly paid cooks; nothing other than the basic ingredients and water is needed.

As all good cooks are aware, you never really boil an egg, as this results in the formation of a black ring between white and yolk. Cook eggs slowly with low to moderate heat. In this way, hard-boiled eggs will have hearts of gold surrounded by a snowy halo of white. This will enable you to show halved hard-boiled eggs lengthwise, with the cut surface uppermost. In making the salad, avoid beetroot, as its colour will bleed and discolour the eggs.

Lettuce, spring onions, radishes, sliced tomato and a sprinkling of mustard and cress should form the basis of the salad, with perhaps a little sliced cucumber for those who like it. Place three halved hard-cooked eggs (cut lengthwise for maximum eye appeal) on the salad; serve with a generous portion of brown bread and butter. Such salads can only evoke praise, instead of complaints of badly cooked or twice-cooked food.

EGG SALAD (Served with Oil and Vinegar Dressing)

Ingredients	100	Portions	25
Lettuce (average size)	20	10	5
Tomatoes	5 lb	2½ lb	1½ lb
Radishes (bunches)	12	6	3
Mustard and Cress (punnets)	8	4	2
Standard eggs	150	75	38
Oil and vinegar			

Method

1. First cook the eggs hard; cool and shell them as quickly as possible.
2. Allow 1 lettuce to 5 salads; the lettuce should be well washed and left slightly dampened (not soaked in water) until required. Do not chop lettuce with a knife.
3. Slice tomatoes, wash the radishes and mustard and cress.
4. Arrange the salad, with maximum use of colour variation, on to plates.
5. Cut the eggs in half lengthwise and place close together on the salad.
6. Serve with oil and vinegar separately. Do not confuse an Egg Mayonnaise.

EGG MAYONNAISE (Using 3 half-eggs per portion)

Ingredients	100	Portions	25
Lettuce (average size)	20	10	5
Tomatoes	5 lb	2½ lb	1½ lb
Radishes (bunches)	12	6	3
Mustard and Cress (punnets)	8	4	2
Standard eggs	150	75	38
Mayonnaise (see Recipe)	12½ lb mix	6½ lb mix	3½ lb mix

Method

1. Prepare the salad in the same manner as for an Egg Salad.
2. Place 3 halved, hard-cooked eggs (cut lengthwise) cut-side down, nicely spaced on the salad, to allow the dome shape of the eggs to carry the rich Mayonnaise or Mayonnaise Cream.
3. Mask the eggs liberally with the Mayonnaise or Mayon-

naise Cream Sauce and sprinkle very lightly with colourful paprika and some finely chopped parsley.

4. The rich reds of the tomato, radishes and paprika, mingling with the crisp, green leaves of lettuce and mustard and cress, will show off the rich golden-yellow of the Mayonnaise.

SHRIMP-STUFFED EGGS ON SALAD

Ingredients	100	Portions	25
Lettuce (average size)	20	10	5
Tomatoes	5 lb	2½ lb	1½ lb
Radishes (bunches)	12	6	3
Mustard and Cress (punnets)	8	4	2
Standard eggs	100	50	25
Peeled shrimps	8 lb	4 lb	2 lb
Oil and vinegar			

Method

1. First cook the eggs hard, shell and leave them to cool.
2. An average-sized lettuce will usually be sufficient for 5 persons. The lettuce should be well washed and the leaves broken apart. Do not chop lettuce with a knife, as this will cause it to wilt quickly.
3. Slice the tomatoes, wash the radishes and mustard and cress.
4. Arrange the salad in a glass bowl.
5. Cut the eggs in half and remove the yolks, setting these aside for use later.
6. Fill the half-eggs with peeled shrimps and arrange these attractively on the salad.
7. Press the hard-cooked egg yolk through a conical strainer, allowing the golden threads to fall over the salad and filled eggs.
8. Sprinkle lightly with mustard and cress.
9. Serve oil and vinegar separately.

Proceed as for Egg Salad but remove the yolk from each half-egg; fill the space so made with sharp-frozen, peeled shrimps. Pass the hard-cooked egg yolk through a fine sieve or conical strainer to make small golden threads. Sprinkle these golden threads round the white of the egg. Serve this dish with olive oil and vinegar. Here again, no complicated cooking is required; just the preparation of salads and eggs—the shrimps can be bought ready peeled in large or small packs.

The *Ice Cream Industry Year Book for 1961/62* has been published by Benn Bros. Ltd, 154 Fleet Street, London EC4 (price 10s 6d). In addition to the usual directories and other useful features, it contains an article on the law relating to ice cream and another on mix formulae calculation.

Mr K. B. Evans has been appointed merchandising manager for Kraft Foods Ltd, and fills the post hitherto occupied by Mr W. Dimmick, who recently joined the Mace wholesale group. Mr Evans was Mr Dimmick's assistant for some time, and was appointed sales training manager in 1960. Kraft's new catering sales manager is Mr L. R. Lessiter, well known to the catering trade. For the past nine months Mr Lessiter has operated as catering specialist attached to the head office.

MR A. TOMLINSON has been appointed to the newly-created position of Poultry Controller for Ross Frozen Foods—a position which embraces all Ross poultry activities from purchasing to marketing. Mr Tomlinson's wide and varied experience at all levels of the poultry industry—with managerial positions on both the sales and production sides—follows a distinguished military career in which he rose from the ranks to become a major, Royal Engineers, winning the Military Cross and twice being mentioned in despatches



SOME NEW LINES

New Kraft Products

KRAFT Foods Limited have introduced three new cheese spreads from Denmark. Packed in brilliantly coloured 3½-oz aluminium foil cups, they are Cheese Spread with Lobster (gold foil); Cheese Spread with Shrimp (red foil); and Cheese Spread with Mushroom (green foil). The prices are 1s 9d per 3½-oz pack for the Lobster and 1s 5d per 3½-oz pack for the Shrimp and the Mushroom. The outers contain six cups each, and are themselves eye-catching and attractive. The flavour and appearance of these spreads makes them ideal for exotic and unusual sandwich fillings, and they are most useful in many snack recipes. Each spread contains plenty of its particular filling, and the quality of all the ingredients is excellent. The spreads are manufactured in Kraft's Denmark factory and imported into Britain. They have been on sale for some years in Denmark, where they proved so popular that it was decided to market them in this country too. Like most other cheese products, they should be stored at a temperature below 70 deg, at which they will keep without deterioration for up to three months.

The "new style" Kraft Salad Cream is made to a new and improved recipe which ensures an even smoother flavour. An attractively-shaped bottle, a serviceable new label in shining green foil, and a practical cap-and-visking closure add to the "new look" of this product. The new product is available in 5, 7 and 10 fluid ounce bottles. Consumer prices are 1s 1d, 1s 6d and 2s per bottle for each size respectively. Catering packs are available at reduced prices, as follows:

Kraft salad cream 1 gal reduced from 20s 3d to 17s 6d per gal jar; ½ gal reduced from 10s 9d to 9s 9d per ½ gal jar.

Kraft salad dressing 1 gal reduced from 17s to 16s per gal jar; ½ gal reduced from 9s to 8s 9d per ½ gal jar.

Usual discounts apply and all jars are free and non-returnable. A bonus offer, effective from March 1 to August 31, offers a 2½ per cent additional discount, payable by deduction from the invoice, to all caterers ordering a total of 5 gallons (one delivery) of Kraft salad cream, salad dressing or tomato ketchup. A total of 5 gallons can be made up in one or a combination of ½ or 1 gallon packs of these products. A further 2½ per cent discount on all purchases of these three products will be paid at the end of the bonus period to caterers whose cumulative orders have exceeded 100 gallons.

Kraft Foods are also importing and selling nationally their American company's catering pack of dried white sliced onions. This product is prepared from Texas and Colorado white fancy onions, grown and processed in the United States. After careful selection, the onions are skinned, cleaned and sliced, then dried to a moisture content of less than 4 per cent. They are packed in 1¼ lb foil-lined paper sacks, the total weight of each—1¼ lb—being equal to 14 lb of raw sliced onion, a yield of 8 to 1. A conversion table and instructions for using the onion are printed on the pack. There are no storage problems with this product, for when the required quantity has been removed the top of the pack can be folded over again and the onion will keep for a long period without



Manuels Frosted Foods have introduced to the frozen food trade "Lady Gay", a new brand of bakery products produced by J. Lyons & Co Ltd. The first product to be offered is a French Jam Sandwich retailing at 2s each, and deliveries began in the Greater London area on March 18, and at a later stage will be offered to selected wholesalers throughout the United Kingdom

deterioration. Kraft dried sliced onions can be used dry, just as they are, to give flavour to recipes containing liquid such as soups, stews, casseroles, gravies, sauces etc, or rolled firmly with a rolling pin to reduce the product to chopped or powdered onion. For other recipes such as hamburgers, meat loaf and potato salad, they can be easily and quickly reconstituted by covering with a given measure of cold water and leaving to stand for 20 minutes. At the end of this time they can be drained off and used in exactly the same way as fresh sliced onions. Time and labour-saving, convenient to use and waste-free, Kraft dried sliced onions are guaranteed free from fibrous root and skin. The high yield of this product results in a total costing of about 10½d per prepared pound.

Recently introduced to all sections of the British catering trade, Kraft Idaho Instant Potatoes are prepared and packaged in the United States from the finest Russets, grown in America's "potato state," Idaho. They are cooked to retain a bright white colour, flash-dried, sieved and packaged in sealed size 10 (nominally 6 lb) tins. Each tin yields approximately 4 gallons of mashed potato (240-288 x No 16 scoops). The granules of Kraft Idaho Instant Potatoes are unbroken and intact, ensuring the elimination of discoloration, greyness and stickiness. Reconstitution offers no problems, as no cooking is required. By adding a measured quantity to a measured quantity of salted boiling water, milk and water or milk powder and water, the product is returned to the cooked state from which it was prepared.

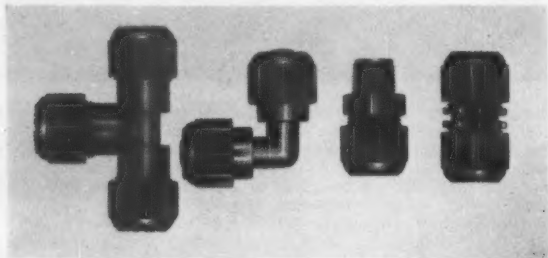
The product has very definite advantages, besides being time, labour and fuel-saving. It has a fine natural white colour, and an excellent flavour.



Plastic Hose Fitting

Polythene tube and PVC and rubber hose are extensively used in ships and yachts for the distribution of fresh water, but in the past connections have been made by pipe clips and fittings which often corrode, jam and in many cases are impossible to reach with a spanner or screwdriver should alterations or adjustments be required. The Tubelock and Hozelock range of plastic fittings overcome these difficulties because they never corrode and are tightened by hand.

The fittings are based on a simple principle; the internal diameter of the pipe is maintained by inserting a bush which is an integral part of the body of the fitting. A circumferential stainless steel spring is slipped over the pipe and is compressed by the action of tightening a nut. There is an internal



taper on the cap of the nut which compresses the spring as it is tightened until at the final stage the spring acts as a circumferential rod biting into the outer diameter of the pipe. By this device a considerable force is exerted on the wall of the pipe and joints capable of withstanding a pressure of 250 lb/sq in can be obtained by hand tightening. The joint can also be broken and re-made any number of times without impairing the sealing properties of the fitting.

The Tubelock range of fittings is suitable for use with $\frac{1}{2}$ in and $\frac{3}{4}$ in normal gauge low density polyethylene tubing and for most $\frac{1}{2}$ in and $\frac{3}{4}$ in PVC and rubber hose. The Hozelock range is slightly lighter in construction and is suitable for use with all makes of $\frac{1}{2}$ in and $\frac{3}{4}$ in PVC hose. LaBrecque Engineering Co Ltd, of Gaywood House, Gayfere Street, London SW1, are wholesale distributors.

Two New Frozen Foods

Two attractive new lines which are now generally available from stockists of Ross frozen foods are Haddock in Cheese Sauce and Dairy Ice Cream. Haddock in Cheese Sauce is in an 8-oz portion, boneless, skinless and in its own container ready to heat and serve. It is packed in outers of 24 cartons and retails at 2s 6d per pack. Price to the stockist is 24s per dozen. Initial sales of this new food have been very encouraging. The Dairy Ice Cream, which has, for good measure, a generous proportion of real cream in its make-up,



is made by Tudor Dairies Ltd (a Ross Group company) at the Henley-in-Arden factory. Retailing at 2s per carton, this 17 fluid ounce pack costs the stockist 18s per dozen cartons, and is supplied in outers of 48 cartons.

Among other new Ross packs are Potato Chips, particularly useful for caterers with staff problems or limited working facilities, and Dairy Ice Cream in 1 and 2 gallon tins, made by the Ross subsidiary, Tudor Dairies, and containing a proportion of real cream.

Washing-up Fluid

A big TV and Press campaign for SqEzy, the washing-up liquid, has been launched by Domestos Ltd, Newcastle upon Tyne. At the same time, SqEzy is being marketed in a new, larger all-moulded pack with a specially designed triple-sealed cap with flip-top action. The new pack will be supported by extra local advertising. Distribution of the new pack has started, but production schedules will delay the introduction in some areas. Branches already distributing the new pack include London, Southend, Brighton, Southampton, Portsmouth, Ipswich, Weymouth, Douglas, Liverpool, Chatham, Manchester and Barrow.

Diversey Proportioner

Deogen Liquid 3X (Concentrate) is a new combined detergent/steriliser marketed by the Hygiene Division of Diversey (U.K.) Ltd. The Diversey-Deosan Research Laboratories have devoted great care to the study of environmental sanitation



Right: The new pack for SqEzy by Domestos Ltd



Left: The Diversey Proportioner

in hospitals and Deogen Liquid 3X (Concentrate) has been developed for use in this highly specialised field. At the same time, simple equipment has been developed for the automatic dispensing of the detergent/steriliser. The ingenious Diversey Proportioner, which can be easily attached to almost any type of tap, entirely eliminates wastage due to hand dosing, which was sometimes as high as 50 per cent, and also ensures correct strength of working solutions. While the normal flow of clear water can be obtained from the tap, a single pressure of the control button causes Deogen Liquid 3X solution to be delivered at exactly the correct strength.

Dutch Floor Coverings

Another sign of keen European competition for the British market is the establishment of a London branch by N.V. Nederlandsche Linoleumfabriek, of Krommenie, Holland. This is perhaps the biggest floor coverings firm on the Continent, with seven factories and contracts on a worldwide basis. The

British subsidiary, Krommenie Flooring (U.K.) Ltd, has its London office at Clifton House, Euston Road. To launch the company three ranges of floor tiles and one of wall tiles have been introduced: Colorite (asphalt) floor tiles; Colovinyl (vinyl asbestos) floor and wall tiles; and Coloflor, a flexible vinyl floor tile. Sixteen colours are available in Colorite, 27 in Colovinyl for floors and ten pastel shades for walls, and ten in Coloflor. All Krommenie tiles are mottled, the colours being an integral part of the product. Prices are highly competitive with British products, and are further enhanced by the fact that the standard tile size is a nominal 10in square against the customary 9in British tile; also, in the last two named ranges the price per tile is the same regardless of colour. The first named (Colorite) has a varying scale of prices according to colour groups in the same way as British made tiles.

Orange Thins

Orange Thins are Meredith & Drew's newest biscuits with an attractive orange flavour. These delicate water-thin biscuits, dusted with a fine sugar coating to give a frosted effect, are already proving popular with those who appreciate a biscuit of unique appeal. The wrapper, following Meredith & Drew's new packaging scheme, illustrates the biscuit and two oranges against a white background, while the end panel repeats the vivid orange colour. The packet is price-marked and retails at 1s per packet. The price to the trade is 14s 4½d for 18 packets.

New Burgess Vibro-Tool

The new Burgess Industrial Model Vibro-Tool is a multi-purpose electrically operated hand-engraver capable of all kinds of marking operations that are outside the scope of electro-arc etching machines. Not only will it engrave ferrous metals (of all hardnesses) but will permanently mark all other kinds of hard surfaces, such as brass, plastics, glass, ceramics and hardboard. It is suitable for clearly marking code or part numbers on small components, etching designs on glass, embossing thin gauge metals and cutting heavy gauge card templates. Operating skill is very quickly acquired. The price of the tool, complete with carbide-tipped engraving point, is 75s or, with a kit of 20 interchangeable accessories, neatly housed in a hinged-lid enamelled metal box, £5 17s 6d.

Pine Disinfectant

News of a significant breakthrough in the cost of disinfectant is announced by Durazone-Choice Products. They are introducing a special Pine Disinfectant at the low ex-works price of 3s 10d per gallon in minimum consignments of 40 gallons. This price, the company estimates, is at least half the price generally charged for 40-gallon consignments. In addition, the company is willing to tender for bulk quantity requirements. For ease in handling, the 40-gallon consignments are packed in separate 1-gallon containers, which are non-returnable. This phenolic disinfectant combines a highly-potent and long-lasting germicide with a pleasant pine fragrance. It is ideal for disinfecting drains, sinks, toilets, and handbasins, and can also be used in solution with detergents.

Double-sided Tape

A new double-sided adhesive tape, Twinsilk, has been introduced by Industrial Adhesives Division of Evode Ltd, Stafford. The tape consists of a thin tissue which is impregnated with a special pressure-sensitive adhesive protected by a treated paper. It is available in a variety of widths up to 12in and can be applied to most surfaces to provide a strong and durable bond. The cohesive strength provided, combined with excellent ageing properties, transparency and light resistance, make this pressure-sensitised tape of considerable value in the manufacture and assembly of many different products. The absence of solvents on the adhesive surfaces make the tape suitable for use on cellulose and other finished surfaces.

A wide range of products was displayed by Drings Ltd at the second National Delicatessen Exhibition in the New Horticultural Hall, Westminster, from March 20 to 24. A full range of frankfurters included catering packs of 4 dozen 3½in and 3in frankfurters and tins of 50 5in size.

HERE AND THERE

After more than 75 years with the Liverpool shipstore merchants, MacSymon's Ltd, Mr Livingstone Holmes has resigned as chairman, but is continuing as a director. Mr Holmes has been succeeded by Mr Cyril Watson as chairman and managing director of MacSymon's with whom he had been connected for over 40 years.

Monsieur Jean Glotin, joint general manager of Marie Brizard et Roger, French distillers of a whole range of liqueurs, including Apry and Creme de Menthe, has been in London on a business visit. While in London he consulted with W. & A. Gilbey Ltd, who last year took over distribution of Marie Brizard liqueurs.

Senhor Fernando van Zeller Guedes, head of Sociedade Commercial Dos Vinhos de Mesa de Portugal Lda, and an international authority on the Portuguese wine industry, has visited Britain to give lectures to several institutes and societies on the Portuguese wine industry. His own company is responsible for exporting the estate bottled Mateus Rosé, which is made from a Bastardo grape grown in the 17th century estate of the Palace of Mateus in the Douro region of Portugal.

A new 10-lb pack of quick-frozen fried potato chips is now available nationally from Smethursts, the catering associate of Birds Eye. The new pack is easy to use and the chips only need a few minutes immersion in hot fat or oil for cooking.

Mr Arthur Reginald Holmes has been appointed purser of the *Queen Elizabeth* in succession to Mr Lionel Carine, who has retired. Previously Mr Holmes was purser of the *Britannic*. He joined the shore staff of the White Star Line at the head office in Liverpool in 1917. He made his first voyage to sea, as a junior assistant purser, in 1924. He went

MR LIONEL CARINE, O.B.E., one of the best-known figures on the North Atlantic and for 17 years Purser of the *Queen Elizabeth*, began his final voyage when the ship left New York on March 15. Mr Carine, who joined the ship as Purser in 1944, retired on March 31 after 42 years at sea. He began his seafaring career with the Cunard Line in 1919 as a junior assistant purser in the *Aquitania*. From 1926 to 1932 he served in senior positions in the first *Mauretania* and *Aquitania*. In 1932 he was appointed Staff Purser of the *Aquitania* and three years later became Purser of the *Queen Mary*. During the war he was Purser of the second *Mauretania*, the *Aquitania* and *Queen Mary*, transferring to the *Queen Elizabeth* as Purser in 1944.



on to serve in successively senior positions in the *Adriatic*, *Celtic*, *Majestic*, *Olympic* and *Homeric*, in which he was acting staff purser. After the merger of the Atlantic interests of the Cunard and White Star Lines in 1934 he was appointed senior assistant purser of the *Doric*, later moving to the *Lancastria*. In 1937 he became staff purser of the *Aquitania*, and in the following year he was appointed purser of the *Alaunia*, transferring to the *Lancastria*, in which he remained until called-up for naval service in 1939. During the war Mr Holmes served as Lieutenant Commander (Paymaster) R.N.R. in the armed merchant cruiser *Ausonia*, a former Cunarder, and in the aircraft carrier *Biter*. In the early postwar years he served as purser of the *Ascania* and *Samaria*. In June 1949 he began his 11-years association with the *Britannic*.

Lawrence & Erausquin (U.K.) Ltd, U.K. representatives of Famco Inc., of Louisville, U.S.A., have appointed Automobile Plastics Co Ltd, Autoplax House, 62-64 High Street, Barnet, Herts, the sole stockists in the United Kingdom of Famco-Fiber decorative mats. These decorative mats have proved popular in the U.S. and Europe for the production of decorative laminates in PVC, glass reinforced plastic, acrylic resins etc, and are ideal for lampshades, shower doors, bath enclosures, laminated panels, partitions, table mats, trays, table tops, furniture, translucent panels for decoration, and for practical illuminating purposes.

"Three Cooks" Guide to Quantity Cooking

V—VEGETABLE DISHES AND VEGETABLE COOKERY

IN PREVIOUS issues of SHIP STORES AND CATERING there appeared a series of abstracts from the marine edition of the "Three Cooks" Guide to Quantity Cooking (price 10s) by Henry Smith. The first abstract dealt with the service and garnishing of soups, and the second dealt with fish dishes and fish cookery. The third dealt with meat dishes, and the fourth with poultry dishes. The following deals with vegetable dishes and cookery.

Vegetables are a very important part of our daily diet. They add colour and variety to our meals and nutritionally they are important contributors because of their roughage, mineral and vitamin contents. From the culinary point of view there is a lot of room for improvement, when it comes to the correct preparation of vegetables. In English kitchens the preparation and serving of vegetables are invariably delegated to the lowest paid and least skilful. It is the opposite in France, where the Sauce Cook and the Vegetable Cook are usually the highest paid, and of course the most skilful. All vegetables must be carefully washed to remove farm spray and dust. All vegetables should be cut shapely (for eye appeal) and uniformly for even cooking (small pieces will be overcooked, while large pieces are still tough).

BAKED BEANS IN TOMATO SAUCE (Each Portion 4 oz)

Ingredients	100 Portions	50	25
Beans, haricot	8 lb	4 lb	2 lb
Water, cold	to cover	to cover	to cover
Water, boiling	2½-3 gallons	1½ gallons	6 pt
Salt	2 oz	1 oz	½ oz
Treacle	12 oz	6 oz	3 oz
Mustard, dry	1 oz	1 t'spn	½ t'spn
Sugar, brown	8 oz	4 oz	2 oz
Tomato puree (see Note C and E to reduce cost)	1 x 2½ can	1 lb	½ lb
Vinegar	2 oz	1 oz	½ oz
Ham or bacon rind in piece	4 lb	2 lb	1 lb

Method:

1. Pick over and wash beans thoroughly. Soak at least 8 hours. Drain.
2. Add boiling water with the salt to cover. Let simmer until beans are tender but not mushy. Drain.
3. Add other ingredients, except ham, to cooked beans.
4. Or omit these ingredients and see Note C below.
5. Arrange a layer of ham or bacon rind in the bottom of a roasting pan.
6. Place beans in pan and cover with another layer of bacon or ham rind.
7. Bake at 325 deg F 3 to 4 hours.

Note:

If necessary more water may be added to beans while cooking.

Variations:

- A. Boston Baked Beans: Follow recipe for baked beans in tomato sauce; omit puree.
- B. Baked Beans and Ham: Add 4 lb of diced smoked ham scraps per 100 portions.
- C. Alternatively, use 3 pints "Three Cooks" Tomato Soup made with 8 oz soup powder in place of the tomato puree per 100.
- D. Cost using the basic mix = 1.40d portion, and with added ham = 3.34d.
- E. Cost if using "Three Cooks" Tomato Soup (Variation C) = 1.16d portion, and with added ham = 3.10d.

SHREDDED NEW CABBAGE

Ingredients	100 Portions	50	25
Cabbage	36 lb	18 lb	9 lb
Salt	2 oz	1 oz	½ oz
Water, boiling	As suitable	As suitable	As suitable

Method:

1. Trim and wash cabbage. Cut into wedges. Remove centre heart. Shred coarsely.
2. Add cabbage to boiling salt water.
3. Cook about 10 minutes or until tender. Drain. Serve at once.

Notes:

- A. Cook cabbage in small amounts. Overcooking causes cabbage to lose its natural colour.
 - B. 36 lb cabbage will yield approximately 25 lb ready for use.
- Variations:
- A. Buttered Shredded Cabbage: 12 oz of melted butter or margarine added as soon as cabbage is drained.
 - B. With cost of cabbage at 2½ lb, cost per portion = 0.91d.
 - C. If 12 oz of melted butter is added, cost per portion = 1.18d.
 - D. If 12 oz melted margarine is added, cost per portion = 1.06d.
 - E. If cost of cabbage rises or falls by ½d lb, cost per portion will rise or fall by 0.18d.

BUTTERED CARROTS CREAMED CARROTS—BUTTERED PEAS AND CARROTS

Ingredients	100 Portions	50	25
Carrots, peeled	22 lb	11 lb	5½ lb
Water	12 pt	6 pt	3 pt
Salt	2 oz	1 oz	½ oz
Butter or margarine	12 oz	6 oz	3 oz
Sugar	2 oz	1 oz	½ oz

Method:

1. Cut carrots in lengthwise strips, about 2 inches long.
2. Add carrots to boiling salt water. Cook about 25 minutes or until tender. Drain.
3. Melt butter and add sugar; pour over carrots.

Notes:

- A. 30 lb carrots as purchased will yield about 22 lb peeled.
- B. Retain water in which carrots are cooked to use in soups or gravies.

Costs and Variations.

- A. Creamed Carrots: Use 25 lb carrots, omitting butter and sugar. Add ¾ gall. medium white sauce (see recipe) to the cooked carrots, or you may use ¾ gall. Extra Thick "Three Cooks" "Devonshire" Chicken.
- B. Buttered Carrots and Peas: Use 21 lb carrots. Add 5 x 2½s canned peas (heated and drained) just before adding butter and sugar.
- C. Cost per portion Buttered Carrots = 1.50d.
- D. If margarine is used, cost per portion = 1.38d.
- E. Cost per portion Creamed Carrots = 1.60d or using Chicken Soup 1.27d.
- F. Cost of carrots based at 4s 8d stone.

BUTTERED CAULIFLOWER

Ingredients	100 Portions	50	25
Cauliflower	50 lb	25 lb	12½ lb
Water	to cover	to cover	to cover
Salt	4 oz	2 oz	1 oz
Butter	12 oz	6 oz	3 oz

Method:

1. Remove outer leaves and stalks of cauliflower. Leave whole or break into sections.
2. Add cauliflower to boiling water. Cook about 12 minutes or until tender. Drain.
3. Place in serving pans. Pour melted butter over cauliflower. (Sprinkle with paprika if desired.)

Notes:

- A. 50 lb cauliflower as purchased will yield about 23 lb of cauliflower ready for use.
- B. Allowing for price of cauliflower at 4d per lb, cost per portion with butter = 2.28d.
- C. Allowing for price of cauliflower at 4d per lb, cost per portion with margarine = 2.15d.
- D. If served *au gratin* cost per portion = 3.02d. (See Variation 1 below.)
- E. If served with mock Hollandaise Sauce (Variation 2), cost per portion = 3.01d.
- F. If served with Cream Sauce (Variation 3), cost per portion = 2.10d or with "Three Cooks" "Devonshire" Chicken = 1.77d.
- G. If price of cauliflower rises or falls by ½d lb, cost will rise or fall by 0.25d in the case of items B, C, D and E, and by 0.19d in the case of item F.

Variations:

1. Cauliflower *au Gratin*: Place cooked cauliflower in greased baking pans. Omit butter. Cover with ¾ gall of cheese

sauce. Sprinkle with buttered crumbs. Bake in a moderate oven (350 deg F) about 15 minutes.

2. Cauliflower Hollandaise: Omit butter and serve cooked cauliflower in $\frac{3}{4}$ gall of mock Hollandaise Sauce.
3. Creamed Cauliflower: Use $\frac{3}{4}$ of recipe. Omit butter and serve cooked cauliflower with $\frac{3}{4}$ gall of medium white sauce, or $\frac{3}{4}$ gall Extra Thick "Three Cooks" "Devonshire" Chicken.

BUTTERED FRESH CELERY

Ingredients	100 Portions	50	25
Celery	40 lb	20 lb	10 lb
Salt	2 oz	1 oz	$\frac{1}{2}$ oz
Water	to cover	to cover	to cover
Butter	12 oz	6 oz	3 oz

Method:

1. Remove leaves. Trim roots and separate stalks. Scrape off any discoloration with knife. Wash thoroughly. Cut into 1-in pieces.
2. Add celery to boiling salt water.
3. Cook about 15 minutes or until tender.
4. Add butter and serve immediately, or see Variation below to reduce cost.

Notes:

- A. A.P. = As purchased. R.F.U. = Ready for use.
- B. Celery hearts may be reserved and used as a relish with cheese. Reserve leaves to use in soups or stews.
- C. 40 lb A.P. will yield approximately 26 lb R.F.U. If celery hearts are reserved to use as a relish, approximately 15 lb more celery A.P. will be needed.
- D. Allowing for cost of celery at 6d lb, cost per portion buttered will be 2.68d.
- E. If margarine in place of butter is used, cost per portion = 2.55d.
- F. If creamed celery is featured (variation below), cost per portion = 2.40d.
- G. If cost of celery rises or falls by $\frac{1}{2}$ d lb, cost per portion will rise or fall 0.20d in the case of D and E, and by 0.15d in the case of item F.

Variation:

1. Creamed Celery: Use only 30 lb A.P. of celery. When cooled add $\frac{3}{4}$ gall of medium white sauce. If "Three Cooks" Extra Thick "Devonshire" Chicken is used in place of the sauce, cost will be 2d.

GLAZED ONIONS

Ingredients	100 Portions	50	25
Onions, 4-oz size	100	50	25
Salt	2 oz	1 oz	$\frac{1}{2}$ oz
Water, boiling	to cover	to cover	to cover
Sugar, brown	12 oz	6 oz	3 oz
Salt	1 oz	$\frac{1}{2}$ oz	$\frac{1}{4}$ oz
Margarine	12 oz	6 oz	3 oz
Water, hot	2 pt	1 pt	$\frac{1}{2}$ pt

Method:

1. Cook onions in boiling salted water for 15 to 20 minutes, or until partially tender.
2. Arrange in roasting pans.
3. Combine ingredients and cook to make a thin syrup. Pour over onions.
4. Bake (350 deg F) about 45 minutes. Baste frequently to ensure a good glaze and uniform tenderness.

Notes:

- A. Cost, allowing for onions at 6d lb = 1.72d.
- B. If cost of onions rise or fall by $\frac{1}{2}$ d lb, cost per portion will rise or fall 0.13d.

BROWNED PARSNIPS

Ingredients	100 Portions	50	25
Parsnips	40 lb	20 lb	10 lb
Bacon fat	1 lb	$\frac{1}{2}$ lb	$\frac{1}{4}$ lb
Salt	2 oz	1 oz	$\frac{1}{2}$ oz
Sugar	8 oz	4 oz	2 oz

Method:

1. Peel and wash parsnips. Cut into uniform size quartered pieces.
2. Cook in boiling salted water 20 minutes or steam until tender. Drain.
3. Arrange in roasting pans. Pour melted fat over top.
4. Sprinkle with salt and sugar.
5. Bake (425 deg F) until lightly browned.
6. Sprinkle with paprika, if desired.

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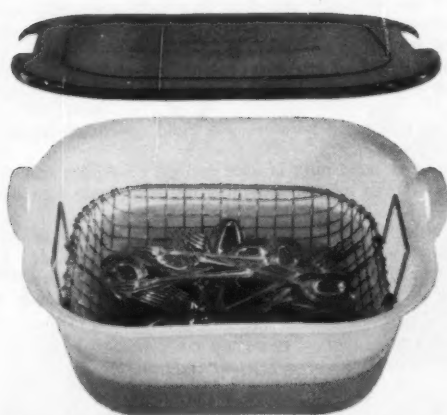
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Notes:

- A. 40 lb A.P. parsnips will yield 26 lb prepared.
 B. Cost with parsnips at 3d lb = 1.25d (with bacon fat and sugar).
 C. As cost of parsnips rise or fall by $\frac{1}{2}$ d lb cost per portion will rise or fall by 0.20d.

BAKED STUFFED ONIONS

(Each Portion 1 Stuffed Onion)

Ingredients	100 Portions	50	25
Onions, 4-oz size	100	50	25
Salt	2 oz	1 oz	$\frac{1}{2}$ oz
Water	to cover	to cover	to cover
Meat scraps, cooked, ground	1 $\frac{1}{2}$ lb	12 oz	6 oz
Bread crumbs, dry	$\frac{1}{2}$ lb	6 oz	3 oz
Salt	1 oz	$\frac{1}{2}$ oz	$\frac{1}{4}$ oz
Pepper, level	1 t'spn	$\frac{1}{2}$ t'spn	$\frac{1}{4}$ t'spn
"Three Cooks" thick white onion soup	8 pt	4 pt	2 pt

Method:

- Cut a slice from the top of each onion. Cook in boiling salted water 20 minutes or until almost tender. Drain and scoop out centres.
- Chop onion that has been removed and combine with meat and bread crumbs.
- Add seasoning and refill onion cups. Place in roasting pans—neatly spaced.
- Add Extra Thick Onion Soup.
- Bake (350 deg F) for 30 minutes or until tender.

Notes:

- A. Chopped cooked ham, beef, pork or veal scraps may be used in stuffing.
 B. For general service place stuffing on top of onions without removing centres, using No 30 ice-cream scoop.
 C. Allow 4 oz size onions.
 D. Cost, allowing for onions at 6d lb, but not allowing for meat scraps = 1.75d.
 E. If cost of onions rise or fall by $\frac{1}{2}$ d lb, cost per portion will rise or fall by 0.1d.

POTATOES AU GRATIN

Ingredients	100 Portions	50	25
Fat	1 lb	8 oz	4 oz
Flour, sifted	Or see Note 2	4 oz	2 oz
Salt	2 oz	1 oz	$\frac{1}{2}$ oz
Pepper	below to reduce cost	1 t'spn	$\frac{1}{2}$ t'spn
Milk	10 pt	5 pt	2 $\frac{1}{2}$ pt
Mustard, dry	1 t'spn	$\frac{1}{2}$ t'spn	$\frac{1}{4}$ t'spn
Cheese, grated	1 $\frac{1}{2}$ lb	12 oz	6 oz
Potatoes (weight before peeled)	42 lb	21 lb	10 $\frac{1}{2}$ lb
Bread crumbs	1 $\frac{1}{2}$ lb	12 oz	6 oz
Margarine, melted	1 lb	$\frac{1}{2}$ lb	$\frac{1}{4}$ lb

Method:

- Make a white sauce with fat, flour, milk and seasonings.
- Add grated cheese and mustard. Blend.
- Cook potatoes until tender. Dice.
- Add diced cooked potatoes to cheese sauce. Pour into greased roasting pan.
- Cover potatoes with mixed melted margarine and crumbs.
- Bake (375 deg F) approximately 25 minutes.

Notes:

1. Approximately 42 lb as purchased potatoes will yield 31-32 lb peeled potatoes ready for use.
 2. In place of the basic sauce you may use 1 $\frac{1}{2}$ gall "Three Cooks" "Devonshire" Chicken (Extra Thick).

Variation:

Creamed Potato: Omit mustard and cheese from sauce. Reheat before serving if necessary, but do not bake.

Allowing cost of potatoes at 3d lb, cost per portion au gratin will be 2.95d; using soup 2.80d. Cost per portion creamed will be 2.60d; using soup 2.35d. If cost of potatoes rise or fall by $\frac{1}{2}$ d per lb, cost per portion will rise or fall by 0.21d per portion.

FRENCH FRIED POTATOES

Ingredients	100 Portions	50	25
Potatoes when peeled and chipped	32 lb	16 lb	8 lb

Method:

- Cut potatoes into long narrow strips about $\frac{1}{2}$ in thick, or pass through chipping machine.
- Wash thoroughly to remove starch.
- Drain until dry.
- Fry potatoes in deep fat (365 to 375 deg F).
 - For most efficient frying, fry about 1 lb of sliced potatoes for each 8 lb of fat in the fryer. Remove when almost cooked but not crisp. Drain.
 - Just before serving fry 3 minutes to reheat and brown. Drain on absorbent paper. Sprinkle with salt and serve immediately.

Notes:

- A. 42 lb potatoes as purchased will yield approximately 32 lb peeled potatoes.
 B. It is best to only fry 1 lb chips to each 8 lb fat in the fryer and this to avoid the too rapid loss of temperature, which will permit the over-absorption of fat because the frying process is slowed down too much.
 C. If frying is carried out correctly the fat absorption and normal frying loss should be no more than 3 $\frac{1}{4}$ -4 lb.
 D. Allowing for cost of potatoes at 3d lb and fat frying costs to be 6s, portion cost with salt will be 1.99d.
 E. If cost of potatoes rise or fall by $\frac{1}{2}$ d per lb, cost per portion will rise or fall by 0.21d.

LYONNAISE POTATOES

Ingredients	100 Portions	50	25
Potatoes, when peeled	32 lb	16 lb	8 lb
Water, boiling	to cover	to cover	to cover
Onions, sliced	4 lb	2 lb	1 lb
Bacon fat (retrieved)	2 lb	1 lb	$\frac{1}{2}$ lb
Salt	2 oz	1 oz	$\frac{1}{2}$ oz
Pepper, level	1 t'spn	$\frac{1}{2}$ t'spn	$\frac{1}{4}$ t'spn

Method:

- Cover with boiling water and simmer gently about 20 minutes or until tender. Drain. Cut into $\frac{1}{4}$ in slices.
- Fry onions in fat until tender but not brown. Combine potatoes, onions, salt and pepper in layers in well-greased roasting pans.
- Bake (400 deg F) 45 minutes or until potatoes are tender and lightly browned.

Notes:

- A. Garnish with chopped parsley.
 B. 42 lb as purchased potatoes will equal approximately 32 lb peeled potatoes.
 C. Allowing for an average all the year round cost of potatoes at 3d lb, cost per portion will be 1.52d.
 D. As cost of potatoes rise or fall by $\frac{1}{2}$ d per lb, cost per portion will rise or fall by 0.21d.

CREAMED OR MASHED POTATOES

Ingredients	100 Portions	50	25
Potatoes, when peeled	32 lb	16 lb	8 lb
Milk (or "Three Cooks" extra thick "Devonshire" chicken)	4 pt	2 pt	1 pt
Salt	1 oz	$\frac{1}{2}$ oz	$\frac{1}{4}$ oz
Margarine	12 oz	6 oz	3 oz

Method:

- Add potatoes to boiling water in copper. Cook 20 to 30 minutes or until tender.
- Drain potatoes (save water to use in reconstituting powdered milk). Place in mixer and beat at low speed until potatoes are broken up. Change to high speed and beat 2 to 3 minutes or until no lumps remain.
- Add hot milk, salt and margarine. Beat at low speed until mixture is blended. Beat at high speed about 2 minutes.

Notes:

- A. 42 lb as purchased potatoes will yield approximately 32 lb peeled potatoes.
 B. If powdered skim milk is used instead of liquid, add $\frac{3}{4}$ lb powdered skim milk and 4 pints water to other ingredients listed above.
 C. Allowing for an average all the year round cost of 3d lb and using liquid milk, cost per portion will be 1.83d.
 D. Cost can be reduced to 1.7d per portion using "Three Cooks" Extra Thick "Devonshire" Chicken, which will impart a most pleasing flavour to mashed potatoes.

BUTTERED FRESH, FROSTED OR CANNED PEAS

Ingredients	100 Portions	50	25
Peas	50 lb	25 lb	12 $\frac{1}{2}$ lb
Salt	2 oz	1 oz	$\frac{1}{2}$ oz
Water	10 pt	5 pt	2 $\frac{1}{2}$ pt
Sugar	4 oz	2 oz	1 oz
Butter	12 oz	6 oz	3 oz

Method:

- Shell peas. Add to boiling salted water.
- Simmer about 20 minutes or until tender. Drain.
- Add Sugar and butter to season.

Notes:

1. 50 lb Bold Summer Peas A.P. will yield about 22 lb peas ready for use, which will lose 15 to 17 per cent weight in cooking.
 2. Four No 10 cans of peas may be used in place of fresh peas.
 3. 20 lb frozen peas may be used in place of fresh peas, which will lose 15 to 17 per cent weight in cooking.

4. Allowing cost of fresh peas at 6d lb, cost per portion, with butter = 3.30d. With margarine = 3.15d.
5. If canned fresh garden peas are used, with margarine = 3.78d. With butter = 3.96d.
6. If canned processed peas are used with butter = 5.28d. With margarine = 2.40d.
7. If frosted peas at 2s lb are used, cost with margarine = 4.95d. With butter = 5.10d.
8. In each case portion allowed for is almost 3 oz and if reduced to 2 oz above portion costs will fall considerably as price allows for good summer yield.

SCALLOPED POTATOES

(Plain, Onion, Tomato, Celery, Mushroom)

Ingredients	100 Portions	50	25
Potatoes, when peeled	32 lb	16 lb	8 lb
Margarine	1 1/2 lb	12 oz	6 oz
Flour, sifted	3/4 lb	6 oz	3 oz
Salt	2 oz	1 oz	1/2 oz
Pepper, level	1 t'spn	1/2 t'spn	1/4 t'spn
Milk, hot	12 pt	6 pt	3 pt

Method:

1. Slice. Place in two greased roasting pans.
2. Make a white sauce with milk, fat, flour and seasoning. Pour over potatoes. Mix.
3. Cover during first hour of baking.
4. Bake (350 deg F) about 1 1/4 hours or until tender.

Notes:

1. 42 lb potatoes as purchased will yield about 32 lb peeled potatoes.
2. Cooking time may be reduced if sliced potatoes are steamed 5 minutes before adding sauce.

Variations:

- A. Scalloped Potatoes and Onions: Place 2 lb sliced onions on top of potatoes before baking.
- B. Alternatively, instead of going to all the trouble of making the sauce, make 1 1/2 gallons Extra Thick White Onion Soup with 1 1/2 lb "Three Cooks" Soup Powder.
- C. Tomato, Celery or Mushroom Soup may also be used to give variety, using 1 1/2 lb soup powder to 1 1/2 gall water.
- D. Allowing for an average all the year round cost of potatoes at 3d lb, cost per portion using basic sauce = 2.48d.

- E. If "Three Cooks" White Onion, Celery, Tomato or Mushroom Soup are used in place of basic sauce, cost will only be 1.62d per portion.
- F. If 12 oz melted margarine is beaten into the soup, cost will then be 1.77d per portion.
- G. As cost of potatoes rise or fall by 1/2d per lb cost per portion will rise or fall by 0.21d.

MASHED WHITE TURNIPS

Ingredients	100 Portions	50	25
Turnips	40 lb	20 lb	10 lb
Salt	2 oz	1 oz	1/2 oz
Water, boiling	to cover	to cover	to cover
Margarine, melted	12 oz	6 oz	3 oz
Salt	1 oz	1/2 oz	1/4 oz
Pepper	1 t'spn	1/2 t'spn	1/4 t'spn
Milk, evaporated	1 can	1/2 can	1/4 can

Method:

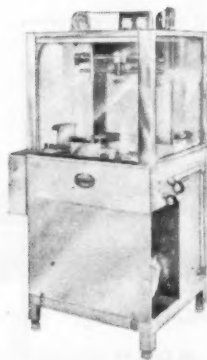
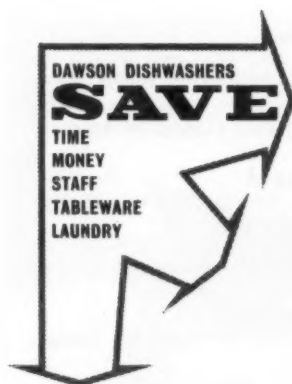
1. Wash and peel turnips. Cut into quarters.
2. Add turnips to boiling salt water.
3. Cook about 25 minutes or until tender. Drain. Place in mixer bowl and mash as for potatoes.
4. Season with margarine, salt, pepper and hot milk.

Notes:

- A. 40 lb of turnips as purchased will yield about 24 lb ready for use.
- B. Allowing for cost of turnips at 4d lb, if margarine is used, cost per portion = 1.90d.
- C. If butter is used in place of margarine, cost per portion = 2.02d.
- D. If butter and canned milk are omitted and the turnips are creamed with 1 pint of fresh milk, cost per portion = 1.68d.
- E. As price of turnips rise or fall by 1/2d lb, cost per portion will rise or fall by 0.20d.

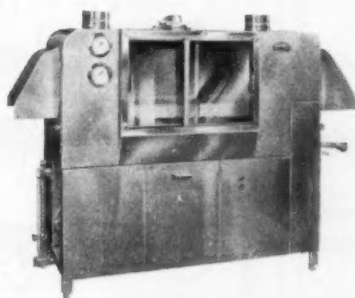
Variation:

Creamed White Turnips: Pour 3/4 gall of hot medium white sauce, over hot cooked quartered turnips, after draining, in which case the melted butter will not be needed and cost = 2.20d. Or, better still, 3/4 gall Extra Thick "Three Cooks" "Devonshire" Chicken will give added flavour and bring the cost down to 1.88d per portion.

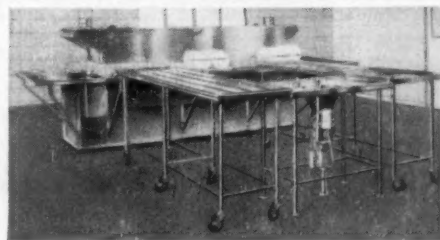


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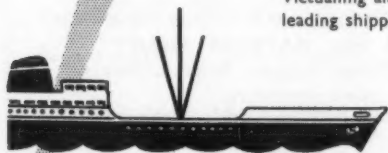
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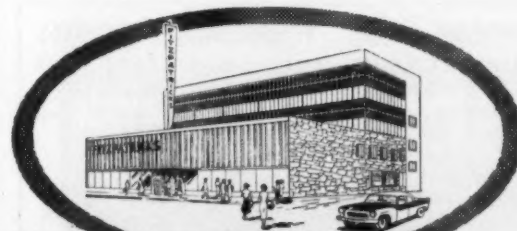
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INDEX TO ADVERTISERS

	Page
Ainslie & Heilbron (Distillers) Ltd.	8
Anderson & Co. Ltd., Wm. Chas.	11
Appavou & Co., M. C.	48
Ayoub & Co., Mohamed	48
Bachelor Cigarettes	—
Bate & Lange	47
Bates & Co. Ltd., W.	50
Rowyers (Wiltshire Bacon) Ltd.	4
Bozzano & Figli, Enrico	47
British American Tobacco Co. Ltd.	2
British Drug Houses Ltd., The	9
Burton's Gold Medal Biscuits Ltd.	51
Bush & Co. Ltd., W. J.	4
Butapatta Co. Ltd.	6
Cadbury-Fry Export Dept.	8
Carreras Ltd.	6
County Chemical Co. Ltd., The	Back Cover
Crosse & Blackwell Limited	51
Dairy Lane Ltd.	47
Dawson Bros. Ltd.	45
Dickinson & Sons Ltd., Benjamin	10
Drambuie Liqueur Co. Ltd., The	4
Drings Ltd.	8
Edge & Sons Ltd., William	—
Findlater Mackie Todd & Co. Ltd.	6
Fitzpatrick's Food Supplies (F.E.) Ltd.	49
Goddard & Sons Ltd., J.	43
Gold Crest Cigarettes	2
Good & Sons Ltd., J.	12
Grant's of St. James's Ltd.	7
Hobart Manufacturing Co. Ltd., The	13
Holsten Distributors Ltd.	—
Horwood Catering Equipment Ltd.	—
Kaye & Son Ltd., Samuel	12
Kirkeby Cheese Factory	10
Lang & Son, Jules	8
Lemon Hart & Son Ltd.	5
London Aluminium Co. Ltd., The	3
Luisse, R.	48
Maconochie Brothers Ltd.	11
Molton & Co. (Wine Shippers) Ltd.	10
National Fishcuring Co. Ltd.	51
Pearce & Sons Ltd., G. W.	10
Peck, Frean & Co. Ltd.	2
Piccadilly Cigarettes	6
Players Medium Cigarettes	—
Rigby & Evens Ltd.	10
Ross Group Ltd.	Front Cover
Schweppes (Overseas) Ltd.	14
Shaw & Sons Ltd., Benjamin	35
Sheppard & Co. Ltd., A. E.	46
Sieber Equipment Co. Ltd., James	51
Spillers Ltd.	Back Cover
Spinney's (1948) Ltd.	46
Sproston Ltd., W. F.	12
Stratton & Co. Ltd.	9
Stewart Ltd., J. & G.	13
Symington & Co. Ltd., Thos.	—
Symington & Co. Ltd., W.	21
Turnpenny Ltd., F. & G.	25
United Rum Merchants Ltd.	5
Wesley Ltd., Harold	13
Whitbread & Co. Ltd.	35
Whiteside & Co. Ltd., H. S.	—
Williams & Humbert Ltd.	12

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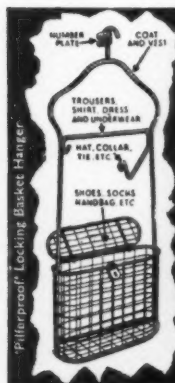
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